Clinical Lecture
ON
IDIOPATHIC, ESSENTIAL, OR PROGRESSIVE PERNICIOUS ANÆMIA.

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(Concluded from page 730.)

THE little we have learned since Addison described the disease has been gained chiefly by means of the microscope, and in a slight measure by the ophthalmoscope. The clinical features of the disease are now generally known and agreed upon, and further elucidation of its essential pathology must be relegated to the histologist.

Let us now inquire a little more closely into some of the more important and interesting features of the disease, and first into its

Causes.—Mental shock or emotion has been shown, in several cases, to be the starting-point of the disease. Thus, in a case related by Sir H. Marsh, a young lady accidentally poisoned her father by giving him the wrong medicine. She was so overwhelmed by grief that she took to her bed, became anæmic, and died. In another instance a young man saw a child run over in the street; he was very much shocked at the occurrence, and never felt well from that date; he became progressively anæmic and weak until death, when nothing abnormal was found in his body except a bloodless condition of the viscera. In another case a young lad died of extreme anæmia in Guy's Hospital, under Sir Wm. Gull. He had never been well since he had been attacked by a sheep in a field. Grief and brooding over the loss of relatives is recorded in several cases. Parturient women, who have not lost much blood, seem especially prone to the disease. Our German *confrères* appear to think the disease more common in the badly-cared-for and impoverished, but such is by no means our experience in England. The well-to-do suffer quite equally with the poor, and experience confirms Addison's observation that it is apt to occur in persons predisposed to be fat. It may be said to occur in both sexes with about equal frequency. The majority of recorded cases in this country have been males, in Germany females; but the difference may lie in the sources of the patients, and the specialties of observers. It is more common at and after middle life. Dr. Fenwick has shown the existence of atrophy of the stomach in cases of idiopathic anæmia,[1] but it does not appear quite clear as to whether the gastric atrophy stands in the position of cause or effect. If the former, its *rôle* is obvious. By arresting nutrition at its very portal the elements for healthy cytogenesis are wanting. Dr. Gowers has suggested that it may be an unusual or irregular manifestation of malarial poisoning. In tropical climates extreme anæmia is very common, but not necessarily malarial in origin. Dr. Sullivan says[2]—"The anæmic condition is a fit soil for the development of malaria in all its varied manifestations." It must be remembered, however, that malarial acclimatisation does not afford complete protection against active malarial manifestations. In the majority of cases no assignable cause can be discovered for the occurrence of the disease, its peculiar progressive character, and its obstinate rebellion against remedial measures.

Course.—The progress of the disease is almost always steadily downwards. From its insidious onset it is often only recognised in a very late stage. It generally runs its course in about six months, or in from six to twelve months. Patients may live with the disease even for some years; and though it is usually progressive in its course, it is sometimes temporarily arrested, and in rare cases even recovered from. All the symptoms increase in severity very gradually, and the progressive weakness is sometimes so slow and gradual that the patient appears almost lifeless for some little time before death. Sudden exertion may cause severe collapse or syncope, and hasten the end, and in this way a patient in apparently a stationary condition may run down very rapidly, especially on removal from his home to a hospital, or *vice versâ*.

Let us now consider some of the special symptoms under the following heads.

(*a*) *Appearance.*—This is quite peculiar. The patient looks as bloodless as a person suffering from profuse hæmorrhage. The mucous membranes and skin lose nearly all trace of the colour imparted to them by healthy blood. The lips, gums, tongue, mucous membrane of nares, vagina, &c., become blanched. The skin varies in tint from marble whiteness to a pale-lemon colour. In some cases it looks like a wax cast discoloured by age, or like discoloured ivory. Sometimes it has the "faded leaf" appearance, just such as is seen in cancerous cachexia. The loss of colour involves the whole integument, but is necessarily most conspicuous in the most vascular parts. Thus it is especially noticed in the face and in the hands; on holding the latter in juxtaposition with a healthy person's hands there is seen to be an entire absence of the natural pinkness of the flesh and of the matrix of the nails. In the late stage the skin may assume a deeper shade, or yellowish-brown tint. The conjunctiva is usually colourless and pearly, the inner surfaces of the lids being of milky whiteness; but not unfrequently it has a distinct though faint yellow tint, as in C—— and P——. This, I believe, is due to the sub-conjunctival fat acquiring a yellow colour, for it is noticeable that, on post-mortem examination, the fat of the body is often of an unusually bright yellow or canary colour. It is, however, sometimes due to staining of the tissues with the pigment of disintegrated blood-corpuscles. It is highly important to remember that the conjunctiva may have this yellow tint, as it sometimes leads observers astray in thinking they have to do with a case of jaundice. No bile-pigment is found in the urine to indicate that there is bile circulating in the blood.

(*b*) *Digestive troubles.*—These are usually present from the onset of the disease. Vomiting is a very frequent symptom, especially in the morning and after food. It becomes especially troublesome, usually, towards the close of the disease. Patients complain much of pain and fulness after food; that is, they have the symptoms of atonic dyspepsia. Dr. Fenwick's researches afford an explanation of this. Often there is troublesome and recurring diarrhœa, which helps to exhaust the patient; but sometimes the opposite condition obtains, and the bowels are torpid. We come now to very important considerations.

(*c*) *Cardio-vascular symptoms.*—The heart nearly always gives indications of feeble action. The patient is usually troubled by palpitation, often when at rest, or readily excited by the least movement or emotion. On examination, the heart's action is found rapid and variable, sometimes intermittent. Murmurs are usually heard, always systolic in time; sometimes they are soft and blowing, more usually loud and harsh, but still maintaining a blowing character: usually loudest at the base, they are generally heard over a wide area; sometimes they are loudest at the apex of the heart, conducted into the axilla, and heard at the angle of the left scapula. It is remarkable how loud and harsh these bruits sometimes are. This has been explained by Quincke as due to the retraction of the anterior border of the lung, which occurs in the anæmic, thus exposing a larger part of the heart, and allowing of better conduction. Occasionally the cavities of the heart are enlarged, and then there is a probability of valvular imperfection, though not necessarily of valvular disease. As regards the production of the bruits heard, those have been explained by Immerman and Lepine in the following way. On post-mortem examination the heart, as I have already told you, is almost invariably found affected with fatty degeneration. It manifests itself by pale yellow zigzag mottlings beneath the endocardium (tabby-cat striation), caused by fatty degeneration of the muscular fibres, irregularly distributed. These markings of fatty degeneration are found with especial frequency on the papillary muscles. Muscle so much diseased must necessarily fail in function, and it is thought that during the systole, the degenerated papillary muscles failing to contract with sufficient force, the cuspid valves are forced into the auricles, and the blood regurgitates from the ventricles into the auricles. It may be, however, that the bruits heard are due wholly or in

[1] THE LANCET, 1877, vol. ii., p. 1.
[2] The Endemic Diseases of Tropical Climates (Churchill, 1877), p. 11.

part to lessened viscidity of the blood,[3] for we hear equally loud murmurs in cases of chlorosis and artificial anæmia, where we cannot believe, from the rapidity of their production and their disappearance, that they have owed their origin to regurgitation from incompetency produced by fattily degenerated papillary muscles. A loud continuous murmur (*bruit de diable*) is almost invariably heard over the jugular veins at the root of the neck. This is generally, but incorrectly, believed to be an indication of anæmia. As my colleague, Dr. Herbert Davies, has shown by careful and numerous investigations, often overlooked, "it is not an anæmic or chlorotic murmur, though uniformly present in those conditions of the system which are marked by an impoverished condition of the blood, inasmuch as it has been observed in a multitude of instances to coexist with the ruddiest complexion and the most perfect health."[4] The arteries are empty, the pulse small, soft, and jerky; sometimes there is atheroma of the large arteries.

The *blood* presents remarkable alterations. The coloured corpuscles, hæmoglobin, and albumen, are deficient; the watery part of the blood increased; the colourless corpuscles, as a rule, unaltered, either in numbers or appearance, but, owing to the great deficiency of the coloured blood-corpuscles, they are *relatively*, though not actually, increased. The coloured blood-corpuscles are not only diminished in number, but they present conspicuous alterations in their size, colour, and appearance. *Diminution in the number of blood-corpuscles* has long been noticed in the anæmic state, but the observations on this point have lacked precision for want of readily applicable means of numeration. Several instruments more or less fulfilling the conditions of exactness and simplicity have been recently devised, the "compte globule" of Mallassez and the instrument of MM. Hayem and Nachet being the best known. Dr. Gowers has modified and greatly improved Hayem and Nachet's instrument, and his "hæmacytometer" made by Hawksley[5] is a really simple instrument, which can be used at the bedside in ordinary practice. In Dr. Gowers's "hæmacytometer" the floor of the cell which holds the diluted blood is ruled in tenth of a millimetre squares. The number of corpuscles in ten squares is counted, and this, multiplied by 10,000, gives the number of corpuscles in a cubic millimetre of blood, the usual way of expressing the corpuscular richness. Vierordt and Welcher have stated that the average of healthy blood is 5,000,000 per cubic millimetre. In cases of moderate anæmia the number of coloured corpuscles sinks to four to three millions per cubic millimetre, in marked cases to two to one million. The number may sink as low as half a million in the cubic millimetre, but this seems the limit at which life can be sustained. In the case of C—— the number has sunk to nearly this degree (650,000), and this presages an early fatal issue.[6] The corpuscular richness, as I have said, is usually stated as the number in a cubic millimetre; but Dr. Gowers, by employing a dilution of 1 in 200, instead of 1 in 250, and using a scale of squares a tenth of a millimetre, is able, by counting the number of corpuscles in two squares (the mean of ten or twenty), to express the centesimal richness of the blood. For, "taking five millions as the average per cubic millimetre for healthy blood, the average number in two squares of the cell is 100. These two squares contain ·00002 cubic millimetre of blood, and it is proposed to take this quantity as the hæmic unit. The number per hæmic unit—i.e., in two squares—thus expresses the percentage proportion of the corpuscles to that of health, or, made into a two-place decimal, the proportion which the corpuscular richness of the blood examined bears to healthy blood taken as unity." This centesimal expression of the corpuscular richness is a great simplification and improvement. Apart from the saving of calculation, it enables us much the more readily to bear the numbers in our memory. You must not suppose that diminution of coloured corpuscles is a peculiarity of idiopathic anæmia. It is found in most acute and in all chronic wasting diseases. Thus Sorensen has shown that in pneumonia (eleven cases) the average was 4·43 millions per cubic millimetre; in rheumatic fever (nine cases) 4·16; in typhoid fever (eleven cases) 4·82; in phthisis (eleven cases) 4·35; in cancer (six cases) 3·66 millions. Mr. Major Greenwood has counted for me the blood-corpuscles in several cases now in the wards, with the following results:—A case of catarrhal jaundice, with great apparent anæmia, 79·7 per cent., or 3·985 millions; very chronic catarrhal jaundice 47·2 per cent., or 2·36 millions; chronic parenchymatous nephritis 62·2 per cent., or 3·11 millions; chronic interstitial nephritis, looking very anæmic, 75 per cent., or 3·75 millions; heart disease, looking very anæmic, 72·2 per cent., or 3·61 millions; abdominal carcinoma (very cachectic) 81 per cent., or 4·05 millions; phthisis (extreme emaciation) 47·2 per cent., or 2·36 millions; cancer of pancreas, with pyloric obstruction (emaciation very extreme), 51·2 per cent., or 2·56 millions per cubic millimetre. In this last patient's case, his weight, at the time of observation, was compared with that when he was in health; and it seemed that the hæmophthisis (wasting of blood) was exactly proportionate to the wasting of tissues shown by his decrease in weight. In none of these cases, it will be observed, did the deficiency of corpuscles approach that of cases of idiopathic anæmia—the 23·6 per cent. of P——, or the 13 per cent. or 0·650 million per cubic millimetre of C——. Dr. Gowers has, however, recorded[7] a case of chlorosis where the corpuscular richness was as low as 1,300,000 per cubic millimetre, or 26 per cent., and which improved whilst taking iron, so that the corpuscles reached 70 per cent. The patient had a striking diminution of corpuscles at each menstrual period.

Alterations in size, colour, and appearance of coloured blood-corpuscles.—Quincke[8] and Eichorst[9] have drawn attention to the fact that in pernicious anæmia many of the coloured blood-corpuscles are considerably smaller than natural, the latter especially remarking that the smaller corpuscles were much deeper tinted. Many of the corpuscles are not above a quarter the natural size, and towards the close of the disease the number of the latter has been found to increase to a great extent. This microcythæmia has been recorded by several observers, as Gardner and Osler, Bramwell, &c., and was noticed in my cases of C—— and J——, and is thought by Eichorst to be pathognomonic of the disease. It may, however, be absent, as pointed out by Grainger Stewart,[10] and noticed by others. In the case of P—— it is absent. M. Hayem stated that in normal blood the coloured blood-corpuscles are of three sizes—large, medium, and small. The smallest in health have a diameter of 6 micro-millimetres; in chronic anæmia the diameter may be reduced to 2·2 mm. In health the largest corpuscles have a diameter of 8·8 mm.; in some cases of anæmia greatly enlarged corpuscles (macrocythæmia), having a diameter of from 10 to 12 or even 14 mm., have been encountered. Similar enlarged coloured blood-corpuscles have been found in the marrow.

Colour.—Besides the poverty of coloured corpuscles in anæmia, there is a deficiency of colour in the majority of those that remain: when the finger is pricked the drops of blood look of a pink or lake colour. The colour, as you know, is dependent on the hæmoglobin the corpuscles contain; and as it is on this chemical compound that their functional activity depends, the deficiency of colour is of equal importance to the loss of numbers. Duncan was the first to clearly prove this *achroiocythæmia* (ἀχροος, pale); but Quinquand,[11] Hayem,[12] and Malassez have especially paid attention to this point. The latter has invented a "colorimeter" for readily estimating the amount of hæmaglobin in the blood; and Dr. Gowers is having made a series of chromometric discs, to be used with his hæmacytometer, for the same purpose. In idiopathic anæmia the deficiency of hæmoglobin may run a different course to the corpuscular poverty, and increase or diminish irrespective of the number of corpuscles. In P——'s case, with a corpuscular richness of 27·3 per cent., the colour of equal quantities of blood was paler than C——'s, with 19·6 per cent. Quinquand has endeavoured to show that the hæmoglobin estimation, or "colour-richness" (Hayem), may be used as a means of differential diagnosis.

Shape and appearance.—Several observers have shown

[3] On the Sounds caused by the Circulation of the Blood. By Dr. Arthur Leared. Churchill. 1861.

[4] Lectures on the Physical Diagnosis of the Diseases of the Lungs and Heart. By Herbert Davies, M.D. Second edition, p. 359. Churchill. 1854.

[5] THE LANCET, Dec. 1st, 1877, p. 797.

[6] This patient became gradually weaker, and died a fortnight subsequent to this lecture being delivered. His hearing got so weak he could scarcely hear a watch; his sight became exceedingly dull; his memory very defective, so that he forgot what he was in the act of saying. He left a dying wish that no post-mortem examination should be made.

[7] THE LANCET, May 11th, 1878, p. 675. [8] Op. cit.

[9] Centralblatt f. d. Medicinischen Wissenschaft, 1876. 26, s. 465.

[10] Brit. Med. Journ., 1876, vol. ii., p. 40.

[11] Compt. Rend., lxxvii., No. 6.

[12] Recherches sur la Coloration du Sang. Gaz. Méd. de Paris, 1876, No. 47.

that the small coloured corpuscles met with in anæmia are altered in shape: they tend to lose their biconcave form, and become spherical, oblong, or tailed. Besides these changes, they have been often observed to have an appearance of nucleation. This apparent nucleation, not confined to this disease, has been variously interpreted; some regarding the corpuscles as immature, or, as Neumann was once in the habit of regarding them, as "transitional." The nucleus is generally eccentric in position, as depicted by Dr. Byrom Bramwell,[13] and Messrs. Mackern and Davy, of Guy's Hospital.[14] The latter have carefully studied this point, and believe the apparent nucleation is due to the separation of the hæmoglobin from the stroma of the corpuscles, the zooid detaching itself from the œcoid. In some of the recorded cases Max Schultze's granular masses (highly refractive granular protoplasm) have been very conspicuous; in others entirely wanting. Quincke remarked some granular or molecular matter of the tint of the coloured blood-corpuscles, and supposed by him to be due to their disintegration. We pass on now to—

(*d*) *Hæmorrhages.*—These are met with in a considerable proportion of cases: epistaxis, bleeding from the gums, and vaginal hæmorrhage are most common. In a few cases purpura has been observed. Hæmorrhages also occur in internal organs and tissues, especially the nervous organs. Death was caused in one of Biermer's cases by cerebral hæmorrhage. *Retinal hæmorrhages* are very common, but not invariably present. These are usually met with towards the close of cases. The retina is generally remarkably pale, veins and arteries appearing of the same colour; only the former are of larger size, and have a well-marked light streak. The hæmorrhages are variable in size, often linear, in the course of vessels, usually situated in the nerve-fibre layer; and the largest ones are most commonly encountered, as in other morbid states, in the lower and outer quadrant of the retina, below the yellow spot. Quincke and Litten state that they have found retinal hæmorrhages in persons suffering from the cachexia and anæmia of cancer, hæmatemesis, uterine hæmorrhage, &c., and Bramwell has recorded cases of recovery with retinal hæmorrhage. I have not myself seen hæmorrhages in the retina from the anæmia of cancer or menorrhagia, &c., but if the anæmia is sufficiently profound, I see no reason for their not making their appearance. A diagnosis should never be founded on a single symptom, but retinal hæmorrhages in connexion with profound anæmia, without kidney disease or other assignable cause for the anæmic state, has a strong positive value in forming the diagnosis of idiopathic anæmia. In one case (J——), Fig. 2, it will be observed there is, in addition to the hæmorrhages, well-marked optic neuritis, but I do not know of its occurrence in other recorded cases. I believe Immermann's explanation of the cause of the hæmorrhages to be the right one. "The normal renewal of the capillary walls—whether functional or nutritive—demands that they shall be in contact with highly oxygenated blood. When the supply of such blood runs short, structural changes, slight at first, and subsequently coarser (fatty degeneration), become developed in the capillary walls, and allow extravasation to take place, at first *per diapedesin*, and afterwards *per rhexin* also." Manz has shown from microscopic examinations that the retinal hæmorrhages are associated with aneurismal dilatation and bulging of capillaries, with collections of colourless corpuscles within and around the vessels.

(*e*) *Pyrexia.*—Though the temperature is usually subnormal, there occur from time to time febrile movements, lasting generally for periods of from a few days to a week. In these pyrexial outbursts the temperature will run up to 103° or 104°, or even 105°. The explanation of this pyrexia (anæmic fever) is uncertain, but it occurs also in leukæmia and pseudo-leukæmia—conditions in all of which the coloured blood-corpuscles are deficient; and, therefore, it is probably dependent on this peculiarity, which alone is common to them.

(*f*) *Œdema.*—This appears late in the disease. Commonly a little œdema is noticed about the feet and ankles; more rarely there is œdema of the hands; sometimes puffiness of the face is observed; effusions into the serous cavities of the chest and into the vesicular structure of the lung are frequent just before death. The effusions appear to owe their origin to hypalbumenosis. They may suggest nephritic disease, but this cause is disposed of by examination of the

(*g*) *Urine.*—In most cases the quantity of urine does not exceed that of health; if anything, it is less. The colour and reaction present no important peculiarities; its specific gravity is within the range of health; it is free from albumen and other abnormal constituents. In most of the recorded cases, and in all I have seen, the urea elimination has been deficient. Strümpell and some other observers have, however, found the quantity of urea increased. Its more usual deficiency is readily accounted for by the diminished consumption of food, its frequent rejection by vomiting, and the little exercise taken by patients suffering from the disease.

(*h*) *Pain and tenderness over bones.*—This has been noticed in several cases. The observation is of considerable importance in connexion with the change in the medulla of bones to be presently discussed. In the present state of our knowledge on the point this symptom should always be searched for. Mosler has pointed out this tenderness over bones in myelogenous leukæmia, a disease pathologically closely allied with idiopathic anæmia.

The want of definiteness of the disease—its very negative characters—renders it liable to be mistaken for other diseases, and it is therefore necessary to say a few words on its differential diagnosis. Idiopathic anæmia is most apt to be confounded with ulcer or cancer of the stomach, Bright's disease, phthisis, or enteric fever. Some cases very closely resemble ulcer or cancer of the stomach; there is pain after food, vomiting, and cachexia. The pain, however, lacks the localisation and definite relation to food usually observed in gastric ulcer, whether simple or malignant. Hæmatemesis is rare. In many cases of anæmia the remarkable preservation of the fat of the body, in conjunction with the extreme anæmia, will greatly help to distinguish this disease from cancer or ulcer, where such anæmia is always associated with wasting. The other signs of idiopathic anæmia—the alteration in the blood, the hæmorrhages in the retina, and bleedings from the nose and elsewhere,—when present, will assist the diagnosis. From Bright's disease, which it resembles in the anæmia, dropsy, and retinal changes, it may be distinguished by the absence of albumen and casts from the urine. It has to be carefully distinguished from phthisis, which often sets in with great anæmia. Indeed, in young subjects, in the early stage of the disease, the differentiation from phthisis presents great difficulties, and the case must be watched before a proper opinion can be arrived at. I have a young woman attending at the present time, in the out-patient department, whom I admitted nearly a year ago for anæmia, for which I could not satisfactorily account. My colleague, under whose care she came, thought she had commencing phthisis. She has returned to me again, still with the anæmia, but with no definite physical sign of phthisis after this long interval. The characters of the blood, and hæmorrhages, will assist time, usually, in clearing up doubts as to phthisis. The pyrexia which accompanies idiopathic anæmia may suggest enteric fever, especially as there is sometimes troublesome diarrhœa. The irregularity of the temperature, the history of the case, showing that the anæmia preceded the fever, will usually remove any difficulty in diagnosis. Ophthalmoscopic examination is most valuable in assisting the diagnosis. The changes seen in the eye in anæmia are so rarely found in other diseases liable to be confounded with it, that the eye should never be omitted to be examined. It is quite exceptional for patients with idiopathic anæmia to complain of defect of sight, even when hæmorrhages are present in the retina, and the eyes should therefore be examined as a matter of routine, apart from any symptom suggesting ocular disease.

Post-mortem appearances.—The most marked peculiarity is the extreme anæmia. As the bodies lie on the table they look like those of patients who have bled to death. All the viscera and the mucous membranes present the same bloodless state. It is remarkable, however, how well the fat is preserved, and it is often noticed that it has a deeper tinge than natural. Dr. Broadbent has pointed out that the hands are sometimes stained yellow, as if from nitric acid, from this cause. Submucous and subserous hæmorrhages are not uncommon. The lungs are found pale and œdematous, and often there is slight effusion into the pleural cavities. The pericardium is usually found to contain an excess of fluid. The subpericardial fat is sometimes much increased. The ventricles of the heart are usually flaccid, and contain

[13] Edin. Med. Journ., Nov. 1877.

[14] THE LANCET, 1877, vol. i., p. 642.

watery blood, or, more rarely, pale fawn-coloured, soft, coagula. The muscular substance of the heart is very pale and marked by faint-yellow zigzag striations and mottlings (tabby-cat mottling). These are often most marked on the musculi papillares and columnæ carneæ. Microscopically the muscle fibre is found extremely degenerate, especially at the points of yellow mottling. In a few cases this fatty degeneration of the heart has not been marked. The liver generally presents no naked-eye change beyond extreme pallor; microscopically there is found fatty degeneration of the liver-cells. In the case of J—— it was mottled like a "nutmeg liver," and this was subsequently found to be due to patches of parenchymatous inflammation and softening, and subsequent hæmorrhage into the softened areas. Quincke has found an excess of iron in the liver, which may possibly stand in some relation to these extravasations, but it must be borne in mind that his cases had been taking iron medicinally. The spleen usually appears natural, but in a few cases it has been found enlarged. The kidneys are usually found healthy, but abnormally pale, but are sometimes the subject of fatty degeneration. The lymphatic and mesenteric glands usually show no signs of disease. The stomach is generally pale, and its walls thin; sometimes its mucous surface is ecchymosed and sometimes mammillated. Dr. Fenwick has found in some cases atrophy and fatty degeneration of the tubular structure, with increase of the intertubular connective tissue. The intestines usually only show extreme anæmia, the appendices epiploicæ being well developed. The brain is remarkably anæmic; sometimes punctiform ecchymoses are observed with the naked eye, or minute extravasations detected with the microscope. We come now to the marrow of the bones, about which a good deal has been said. In health the marrow within the shafts of the long bones is yellow; in the short bones, cancellated ends of long bones, diploe, bodies of vertebræ, the sternum, ribs, &c., it is reddish. In idiopathic anæmia the marrow of the long bones and of the sternum, ribs, &c., has been found of a deep-red or violet-red colour, and of the consistence of splenic pulp. In addition to the ordinary constituents of the marrow—the granular nucleated marrow-cells, myeloplaxes, and lymphoid cells,—there have been found nucleated coloured blood-corpuscles, the majority of larger size than ordinary coloured blood-corpuscles, but some smaller, cells containing coloured blood-corpuscles, and a great excess of lymphoid cells. These changes have been very carefully studied by Cohnheim, Osler, Neumann, Litten, and Orth. The two former regard the changes in the marrow as directly contributory to the anæmia. Neumann, Litten, and Orth, however, assert that similar changes are found in many chronic wasting diseases, as cancer, phthisis, &c. Litten and Orth have further shown that in dogs from which from 3 to 4 per cent. of the body-weight of blood had been withdrawn, within periods of from five to seven days, the marrow contained a number of nucleated blood-corpuscles. This brings us to the

Pathology.—This still remains shrouded in obscurity. It is as yet undecided whether the deficiency of coloured blood-corpuscles, which evidently underlies the question of the essential nature of the disease, is due to defective formation of the coloured blood-corpuscles (anhæmatosis), or to increased destruction of the corpuscles (hæmophthisis) of the cytogenic (or blood-elaborating) organs. The marrow of the bones has given the most marked evidence of implication, the spleen having, in a few cases, shown alterations. The liver has afforded somewhat indefinite indications of blood-destruction. The lymphatic and mesenteric glands, and lymphatic structures of the intestine and elsewhere, have not been proved to be involved. As regards the bone-medulla, the minute anatomy and physiology of which have only recently been studied with care, it remains uncertain whether the changes which have been found in idiopathic anæmia are peculiar to that morbid state; and, if so, whether they stand in the relation of cause or consequence. The former view has been adopted by Cohnheim, Osler, and some others, who have regarded the nucleated and dwarf corpuscles found in the blood as due to arrest of their development—"deformed, unfinished, sent before their time"—owing to failure of the cytogenic function of the marrow of the bones. The opposite opinion is held by Neumann (who has devoted so much study to the marrow), Litten, and Orth. They assert that the changes in the marrow are not peculiar to any one form of anæmia, but are brought about by the anæmic state, however produced. Neumann, moreover, points out that the large collections of blood-discs found at the diaphyses of the hollow bones, where only fat-containing marrow should exist, cannot be taken to indicate arrested production of corpuscles, but must be regarded rather as a new source for them. Neumann regards the changes in the marrow as a compensatory effort of the organism to supply the deficiency created by great destruction of the coloured blood-corpuscles. There can be no doubt of the close alliance of the disease with the other cytogenic diseases—anæmia lymphatica (pseudo-leukæmia), leukæmia splenica and lymphatica, and myelogenous leukæmia. In these various states we see the blood profoundly altered, either by an increased production of colourless corpuscles, actual or relative, or by an arrest of the development of the coloured corpuscles from the latter, these conditions depending upon, or being associated with, changes in the blood-forming organs, the spleen, the lymphatic glands, the marrow of the bones. With myelogenous leukæmia, idiopathic anæmia has the closest alliance. In each the disease appears confined to the marrow of the bones; in the former with increased development of colourless corpuscles (or total arrest of evolution of coloured from colourless corpuscles); in the latter, with no increase of colourless corpuscles, but with imperfect formation of coloured corpuscles (partial arrest of evolution of coloured from colourless corpuscles). Cases have been recorded which began as anæmia and terminated in leukæmia, the lesion being found in the marrow of the bones. I repeat, however, it still remains uncertain how far these changes are the cause, how far the effect of the disease. The fatty changes in the different organs are the result, and not the cause of the anæmia. Perl and others have produced fatty degeneration of the heart in dogs by repeated bleedings. It is probable, as several writers have observed, that in idiopathic anæmia we have to do not with one morbid state dependent upon a single anatomical change. As Immerman says, we must regard the term idiopathic, or progressive pernicious anæmia, as "a sort of provisional shelter for a multitude of cases, possibly of various origin." It will be the duty of each subsequent clinical and pathological investigator to reduce the number of cases embraced under this term, by relegating them to classes according to their etiological relations or the primary organ or tissue at fault. This is a convenient place to discuss the name which should be attached to the malady. The name Addison gave, with some diffidence, to the disease is not without objection. We do not believe the disease arises spontaneously, though we may remain in ignorance as to its origination. The word "idiopathic," almost banished from our nosology, excites a mental attitude of antagonism, which, however, perhaps has the advantage of inciting investigations as to the causes of the disease. The term "essential" expresses well the clinical and anatomical features of the disease. Biermer's title, "progressive pernicious anæmia," embraces the general clinical characters of the disease; but the term "progressive" is better omitted, for the disease is sometimes, though rarely, arrested. In the interest, however, of medical science and history, I think it is better to retain the name "idiopathic anæmia," first given to it by Addison, and thus refer the inquirer back to the original and masterly description of the disease by the great English physician.

The *prognosis* is always very grave. Sooner or later, in all but a very few cases, the blood poverty reaches a stage at which life cannot be supported. In this respect Biermer's title of "progressive pernicious anæmia" is well founded. The prognosis is most serious in the young of the male sex, and in pregnant women, who generally die rapidly, after aborting. Anæmic fever and hæmorrhages are unfavourable signs, indicating an advanced stage of the disease; whilst dropsy, with rare exceptions, portends a rapid termination of the case. Though usually progressive, the disease may be arrested for a short period, or even remain stationary for some years. I have known a middle-aged woman in this hospital who had characteristic symptoms of the disease for five or six years, and who left the hospital slightly improved by treatment. I have already mentioned, in speaking of the course, that the disease usually terminates in from six to twelve months.

We come now, lastly, to consider the *treatment*. With the confession of our ignorance of its pathology, and from the evil name the disease has acquired, you will probably have inferred that treatment has not hitherto been at all successful. Iron, which seems so strongly indicated, generally fails to arrest the disease, or to produce its usual effects in increasing the number, size, and colour of the blood-discs. Unless gastric symptoms contra-indicate its

employment, it should always be tried, alone or in combination. Bland's or Vallet's pills are powerful hæmatics. In chronic cases the natural chalybeate waters suggest themselves as the most proper vehicle for the iron. Phosphorus and nitric and nitro-hydrochloric acids have been found of no avail. Arsenic has proved in Dr. Byrom Bramwell's hands of more signal service than other remedies. Arsenic has long had a reputation as a blood tonic. From its marked effect in producing dispersion of lymphatic enlargements (as occasionally in Hodgkin's disease) it would appear to have some special influence upon all the cytogenic organs, though possibly greater upon the lymphatic than the myelogenous. It may be used in combination with iron, Fowler's solution and the tartrate agreeing well together; or arsenious acid may be given with sulphate of iron in pill. Transfusion of human and of lamb's blood has been tried in several cases, but not with encouraging results. The most important point in the treatment, however, is the careful attention to physical and psychical hygiene. The patient should be kept warm, and in bed. We must remember that his oxygen-carriers are fewer and feebler than in health, and we must therefore save him from any unnecessary demands upon their functions in the processes of respiration and circulation. By keeping the patient in bed we minimise their work. Remembering that gastric atrophy is frequently associated with, if not an essential factor of, the disease, explaining the repugnance to food, the gastralgia, and the vomiting so generally present, only the most assimilable food should be given, in small quantities at a time. We have seen that the disease sometimes owes its origin to mental shock and depressing emotion. The cerebral anæmia itself tends to keep up or produce a restless, irritable, and depressed state of mind. It is of the highest importance to combat this by every means in our power. The horizontal position is on this account, also, to be maintained. The patient should be kept in a light, bright, and cheerful apartment, where, if possible, the sun's rays enter some part of the day. We should try by suitable companionship, and by encouraging and helpful words to keep up a happy train of thought, and a hopeful attitude of mind.

SOME NOTES ON

ABSCESS OF THE LIVER,

ILLUSTRATED BY CASES IN WHICH THE ABSCESS HAS BEEN SUCCESSFULLY OPENED WITH TROCAR AND CANNULA.

BY SURGEON-MAJOR M. C. FURNELL, M.D., F.R.C.S.,
SENIOR PHYSICIAN, MADRAS GENERAL HOSPITAL.

(Continued from p. 689.)

CASE 3.—Narasimmooloo, aged forty-five, dhooly-bearer, a spare-built man, of rather intemperate habits, was admitted into hospital March 29th, 1876, complaining of pain in the right hypochondrium and the epigastric region. The patient states that about four years ago he was treated for some affection of the liver. About seven days ago, after having had several loose motions, he had an attack of fever, which lasted for one day, attended with acute pain in the right hypochondrium, followed in a few hours by a swelling in that region and the epigastrium; the swelling steadily increased in size, and, feeling alarmed, he applied for admission.

Present state. (Notes by the student in charge.)—Circulatory system: Pulse slow, soft, and compressed; a murmur, synchronous with the first sound, is heard, loudest at the apex of the heart, and is propagated along the course of the large vessels.—Respiratory system normal.—Digestive system: Tongue thickly coated with a brown fur; appetite good; bowels regular. The area of hepatic dulness is enlarged, extending across the epigastric region to within an inch of the costal cartilages of the left side, and downwards to within an inch of the umbilicus. Just over the position of the left lobe is a swelling, presenting the appearance of a circumscribed tumour, five inches in length by three in breadth; on deep palpation, fluctuation is detected. Spleen normal.—Passed a restless night; complains of a dull aching pain in the hepatic region. Urine scanty (twelve ounces), high-coloured, acid in reaction, sp. gr. 1022; contains albumen. Skin cool and moist. To have twenty grains of chloride of ammonium to three ounces of water three times a day; bran poultice to side twice a day.

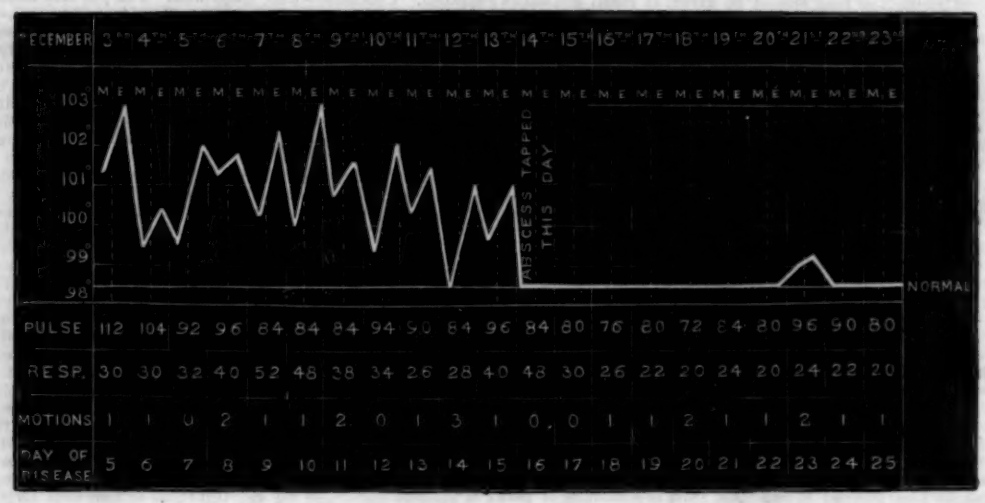
March 31st.—Spent a restless night; still complains of pain. The patient was put under the influence of chloroform, and an incision about an inch and a quarter long, dividing the tissue down to the aponeurosis, made at the centre of the tumour, and a puncture was made with a trocar a little larger than the ones used in hydrocele. On removing the cannula, about one ounce and a half of grumous pus escaped. A piece of lint saturated with carbolised oil was introduced, and the trocar removed. A linseed-meal poultice to be applied; dressings to be repeated this evening. 5 P.M.: Temperature 98·6°. On removing the dressing about an ounce and a half of grumous pus escaped. Continue.—April 1st, 6.30 A.M.: Spent a restless night. Temperature 98·4°. The patient wears an anxious look. On removing the dressing about an ounce of pus, much the same in character as yesterday, escaped. To have half a drachm of tincture of hyoscyamus in three ounces of water at bedtime. 5 P.M.: About an ounce and a half of grumous pus escaped this evening. Temperature normal. Continue.—2nd: Spent a restless night; no fever since the last report. The pus which escapes is still grumous. Continue.—4th: No change. Continue.—5th: Passed a fair night. A very small quantity of grumous pus escaped. Continue.—6th: Slept well. The pus this morning was laudable; very little pain in the side. Continue.—8th: The pus is the same in character, but rather increased in quantity. Continue.—10th: Very little pus is now discharged. The sides of the incision have begun to granulate. Continue.—12th: The patient is doing well; no pain in side; a small quantity of pus is discharged from the incision. Apply wet lint. Draught to be repeated.—27th: There is but a mere speck of ulceration left. Discharged at his own request.

I never saw this man again, but, as he was a Government servant, and did not return, I presume he continued well.

CASE 4. (Abridged from the lengthened report in the case-book.)—J. F——, aged thirty years, a European (by European is here meant a white man; he was in reality an American), of a nervous temperament, and of intemperate habits, was admitted into hospital on December 13th, 1877, suffering from fever and acute pains in the right hypochondriac region. The patient had been in India one year, and, with the exception of an attack of cholera, he enjoyed good health until two months ago, when he suffered from dysentery and internal hæmorrhoid, for which he was treated in the hospital as an in-patient, and recovered perfectly. He maintained good health until ten days ago, when he was attacked by fever, rigors, &c., which came on regularly every day. Four days ago he was attacked by pain in the right hypochondrium, of a dull, aching character, increased on deep inspiration and coughing. The pain has increased in severity daily, and for the last three or four days he has been unable to lie on either side, for, when lying on his right side, the pain is very severe, and, when on his left side, he feels a sensation of weight and dragging, as if the liver was falling down. He is also unable to lie long on his back, as he suffers from difficulty of breathing when in that position. He has been obliged for the last three or four days to sleep in an easy chair, propped up. He has suffered from diarrhœa the last three days. Pulse 102; tongue coated; appetite impaired; bowels very loose; impossible to map out area of hepatic dulness, parts are so exquisitely tender; breathing 30 per minute, and he has an occasional short dry cough, but, on auscultation, nothing abnormal is revealed. Complexion sallow, but not jaundiced; conjunctivæ pearly; skin soft, warm, and bathed in perspiration. Temperature 101·2°. At first he was put on ipecacuanha. A bolus of eighty grains, to be repeated in six hours, was prescribed by the resident surgeon, and a large linseed-meal poultice to the side. He retained the first dose of the ipecacuanha, and vomited the second, but it restrained the diarrhœa, and his temperature fell to 99°.

I will abridge the daily treatment. He was put by me on the chloride of ammonium, but this failed to render any benefit—in fact, seemed to make him worse, so that all remedies by the mouth were omitted. He had a hypodermic injection of morphia at bedtime to procure sleep, and a large soft linseed-meal poultice was applied to the side. Under this expectant treatment he improved; that is, he became

easier and free from pain. On Dec. 19th the entry describes him as free from pain; pulse 94; respiration 34; appetite improving; bowels moved twice daily. On the 14th he was not so well, had passed a restless night, having been attacked with fits of dyspnœa, which compelled him to sit up in order to get his breath. There was increased pain, the bulging in the right hypochondrium was more marked, there was extreme tenderness at one spot, and fluctuation was easily distinguished there. It was determined to puncture the liver, and the patient was put under the influence of chloroform. "An incision about an inch long was made just below the margin of the costal cartilages, and about an inch and a half to the right of the linea alba. A grooved needle was then introduced, upon which a few drops of pus welled up. The trocar and cannula were then plunged in, in a direction obliquely backwards and upwards. The trocar being withdrawn, about five ounces of thick, healthy pus was evacuated. When the pus ceased to flow, a narrow strip of oiled lint was passed through the cannula into the opening. The cannula was then withdrawn, leaving the lint in the wound. A piece of cotton-wool dipped in carbolic acid (1 to 40) was put over this, and then a large soft bread-and-water poultice; during the whole time the antiseptic spray was kept playing over the seat of operation." The relief was immediate, his temperature, which the night before the operation was 101°, never rose again above normal until the 21st, a week after the operation. (See chart.) The only treatment



was quinine mixture as a tonic, good diet, no stimulants, and carefully dressing the wound daily under the antiseptic spray. The liver recovered itself, but a long deep sinus in which you could push down a probe from an ordinary dressing-case to its full length remained patent for a long time, discharging half a drachm to a drachm of pus. Sometimes this would apparently heal up and then break out again. But the man in every other way improved in health, and at last I was enabled to obtain him a passage home to Europe. Before leaving his sinus had healed, and I have since heard from Professor Maclean, to whom I gave him a note, that he called upon him at Netley apparently all right, but very drunk.

CASE 5.—Lieut. ——. May 18, 1878. This officer was admitted with a case and certificate from a medical board. He had had, it seems, hepatitis up country, and had been sent to the Neilgherry Hills, from whence he was very properly at once sent by the medical officer of Coonoor to Madras, to appear before a board, to be sent home. The board sent him into the General Hospital for further treatment before embarking. He is a pale, sickly, emaciated young man, with a care-worn aspect. Pulse 80, small volume, almost thready; tongue furred and fissured; bowels constipated; temperature 100°. On exposing his chest there is a small swelling to the left of the mesian line in the left hypochondrium; the skin much discoloured from various applications. The parts are so exquisitely tender on gentle pressure, that very careful examination is difficult, pressure impossible. The tumour is lifted up at each beat of the heart, giving much the appearance of an aneurism; but the patient can scarcely bear the gentlest pressure of a stethoscope. Dr. Branfoot, assistant-physician, saw the case with me, and we agreed as to its being a circumscribed hepatic abscess. The patient was accordingly put under chloroform, and an incision made over the most prominent part of the swelling. A fine exploratory needle having been introduced, and pus found, a large trocar and cannula were introduced *upwards* and backwards, and sixteen ounces of laudable pus exuded. The patient bore the operation very well, and expressed himself, on recovery from chloroform, as much relieved from pain. 7 P.M.: Doing well. Finds, to his intense delight, he can lie on either side with perfect ease. A draught of solution of acetate of morphia to be taken at bedtime. Temperature 98·4°. He did well until May 23rd. Slight fever yesterday evening. The discharge from wound has quite stopped. This morning, in dressing the parts, I managed to get a probe well in, but no discharge came out. Wound looks perfectly well. From that time there was no more discharge from the wound, and the liver bore pressure and percussion with comfort all over; but the weather being intensely hot, he made little or no progress in gaining strength. Some diarrhœa set in, and he became fretful and peevish, refusing his food and medicines; so we put him on board ship for England. I heard from him last mail (Aug. 7th). He arrived in England very much improved, so much so that his friends were somewhat doubtful of his having been so ill. He had had no return of liver trouble, the wound was quite healed, and he had so far recovered his health as to be looking forward to cricket.

I never knew a punctured liver-abscess heal up so quickly as this one; in four days the discharge had ceased. The wound was most carefully dressed night and morning under the antiseptic spray either by Dr. Branfoot or myself.

CASE 6.—R——, aged forty years, admitted May 28th, 1878, with a round swelling occupying the whole of the right half of the abdomen, extending as far down as the iliac fossa, said to have been gradually enlarging for the last ten days. Patient states that about four days before the swelling appeared he had an attack of fever, which left him as soon as the tumour appeared. The tumour is about the size of a large cocoa-nut; no pulsation can be felt in it, nor bruit detected. I omit the long systemic examination in the case-book, but the temperature was normal. On the 29th, the day after his admission, the swelling was cut down upon and tapped, as described in Case 5, and twenty ounces of pus exuded. The wound was dressed antiseptically, a piece of carbolised lint being introduced through the cannula to keep it open. He progressed favourably, and was discharged, on June 22nd, well.

(To be concluded.)

ON A

METHOD OF ADMINISTERING CHLOROFORM FOR OPERATIONS ABOUT THE MOUTH.

BY JOSEPH MILLS, M.R.C.S.,
ADMINISTRATOR OF CHLOROFORM TO ST. BARTHOLOMEW'S HOSPITAL.

IN cases of operation about the mouth, as removal of the tongue, removal of the jaw, and more particularly cleft palate, the difficulty of maintaining anæsthesia has been a source of much trouble both to the operator and to the administrator of the anæsthetic. With the means usually employed, such as a piece of lint, towel, or face-piece, it is impossible to maintain the anæsthesia uniformly throughout the operation. If any one of these means be adopted, it is necessary that very profound anæsthesia should be produced before the operation is begun; for the administration must cease at the commencement of the operation, and, though the anæsthesia may have been pushed as far as the administrator dare, the patient will soon recover from the effects, and this may and often does occur at the most critical or delicate part of the operation. The struggling occasions great inconvenience to the operator, and necessitates considerable delay; for, when it occurs, one or other of two things must be done—either the operation must be discontinued for a time until anæsthesia has again been produced, or the operation must be continued whilethe patient is struggling and suffering pain.

In very profound anæsthesia, blood is much more likely to get into the larynx and interfere with respiration than when the patient is only lightly under the influence, although quite sufficiently so for the operation to be performed without producing pain or struggling. Very profound anæsthesia, too, is generally accompanied by more or less syncope.

For operations about the mouth I always use chloroform; because the inhalation of ether often causes much coughing and choking, and is accompanied by a flow of viscid saliva which is most inconvenient to the operator, especially in cases of cleft-palate. Then, too, in the administration of ether, it is necessary to exclude nearly all air, so that it is impossible to continue it during an operation about the mouth.

I have lately made use of an apparatus for the administration of chloroform in such cases as those just referred to, which overcomes the difficulties. The apparatus employed is one which enables the vapour to be injected through a small tube into the respiratory passages either by way of the mouth or nostril, and is shown in the accompanying woodcut.

A, Hand-bellows; B, receiver; C, elastic tube; D, flexible metallic tube.

The chloroform vapour is obtained by means of Dr. Junker's very ingenious apparatus, which is usually employed for the administration of bichloride of methylene only, though it was intended by its inventor for the administration of chloroform also. For the face-piece, however, which has, so far as I am aware, alone been employed hitherto in connexion with it, I have substituted a flexible metallic tube of a size which can be conveniently introduced within the nostril when required. A tube of this kind possesses great advantages, for instance, in such a case as removal of the superior maxilla; when all available space is occupied by the operator and his assistant, the tube can be introduced by the mouth, and interferes with no one.

On the other hand, by any of the ordinary methods there is no opportunity, from the time the first incision is made until the bone has been removed and the hæmorrhage has been stopped, for the readministration of the anæsthetic, unless at the expense of just so much delay on the part of the operator.

Again, in a case of removal of the tongue, in which one and often two écraseurs form an additional impediment, the tube can be inserted into the nostril and the administration continued. Being flexible, the end of the tube which projects from the nostril can be so bent that it is not in the operator's way.

In using the apparatus the receiver, which is capable of holding two ounces of fluid, is charged with six drachms of chloroform. By pressure of the hand-bellows the air is forced through a tube which leads to the bottom of the receiver, and passing through the chloroform, escapes, impregnated with the vapour, through the elastic tube communicating with the flexible metallic tube which is inserted into the patient's mouth or nostril.

With this apparatus the administrator has full control over the supply of the chloroform. The pressure of the bellows should be timed with the inspirations of the patient, and the quantity of the supply is regulated by the quality of the pressure.

I produce anæsthesia at the commencement by sprinkling chloroform from a drop-bottle on to a piece of lint held before the face. When the patient is ready for the operation to be commenced, I throw aside the lint, insert the tube into the mouth or nostril, as most convenient, and so maintain a uniform state of anæsthesia. I have adopted this method since last March, and have employed it in over thirty cases, including two of removal of the jaw and thirteen of operation for cleft palate. In all the cases in which I have used it, except one, it has acted entirely to my satisfaction. The exception was in the case of a man aged forty, whose tongue was removed for epithelioma. He was said to have drunk freely, and he took a large quantity of chloroform and struggled violently before he could be got under its influence. When the operation was commenced, I found that, though by means of the tube I could prolong the anæsthesia, still I could not maintain it, and so was obliged at intervals to resort to the lint and drop-bottle.

I at first used a gum-elastic catheter, which answers very well when inserted into the nostril; but when used for the mouth, I found that it could not be held so steady as a metallic tube, and that, becoming warm, it would not retain the curve I desired.

The apparatus is made by Krohne and Sesemann; the flexible metallic tube was made for me by Arnold and Sons.

TUMOUR OF CEREBELLUM.[1]

BY J. M. H. MARTIN, M.D. &c.

TUMOURS of the cerebellum are not so frequent as to make them uninteresting; therefore, I have thought fit to bring this case under notice. The variety of disease, the extent of lesion, and the symptoms during life, have by different authors been shown to vary in such a manner as to throw doubts on the co-ordinating functions of the cerebellum. Van der Kolk says the cause of the co-ordination of movement is not in the cerebellum, but is situated in the spinal cord. However, the marked symptoms of incoordination, coupled with the persistent vomiting, led me in this case to diagnose cerebellar tumour.

Henry D——, aged fourteen years, first came under my observation twelve months ago. He was the third of ten children, six of whom are now living; two died of convulsions, and two of scarlet fever; the remainder are remarkably bright and healthy. The parents (with the

[1] Read before the members of the Liverpool Medical Institution, and specimen shown.

exception of the father, being a drunkard, and having had a severe attack of constipation) never had any illness. Maternal grandfather died of cerebral softening and paralysis; two aunts died of phthisis, aged twenty-four and thirty-two respectively. Four years ago, during the progress of whooping-cough, the lad had an attack of meningitis, from which he made a fair recovery. Shortly after, however, he complained of curious feelings in his head. Two years ago, added to these curious feelings, first came the symptom of pain at the back and vertex of head, which, when relieved, left a dull sensation, as if his head did not belong to him. When I examined him he told me he had been unable to assist his father at glass-blowing for some time, as it brought on such an intense pain in his head, with starting of the eyeballs. He had no difficulty in articulating; tongue foul; appetite sometimes voracious, but he always ejected some, if not the whole, of his food; bowels constipated; urine contained neither sugar nor albumen; no anæsthesia nor hyperæsthesia; when walking was very unsteady in his gait, reeling about like a drunken man. He had great difficulty in keeping the erect position, and usually supported his trunk when sitting by placing his elbows on his thighs. He was easily excited, and occasionally had impulses of a pugnacious tendency, running after his mother, as well as he could, to strike her. Could read well, but sometimes complained of the letters running together; the pupils were usually moderately dilated. No ophthalmoscopic examination was made, as he could not be brought to the surgery. When in bed he had a peculiar habit of shuffling down to the bottom, and at times was attacked with convulsions of a tonic character. Under bromide of potassium he seemed to gain relief, but his condition remained very much the same, except that he became very self-willed and capricious. After having some tea on the day of his death, he wished to lie down, complaining greatly of fatigue. He was assisted to bed by his mother, and she left him, as she thought, asleep. On going to look at him an hour or so afterwards, she found he was dead.

I made the autopsy eighteen hours after. The body was fairly nourished, but not so well developed as it should have been for the age. Pupils dilated. On reflecting the scalp, the oozing of the vessels showed a remarkable fluidity of the blood. On removing the skull-cap, the inner surface of the calvaria showed two deep depressions in the parietal bones at each side of the groove for the longitudinal sinus, and one of them, by a just perceptible fissure, permitted blood to flow through on stripping the pericranium; correspondingly there were two venous eminences on the dura mater, and the longitudinal sinus was engorged with blood. The dura mater was considerably thickened, especially on the vertex, with the exception of the thinning produced by the two eminences before mentioned. The arachnoid and pia mater were slightly congested, but the latter did not strip well. The brain itself was congested, and all the ventricles were full of pale fluid. The cerebellum appeared quite bloodless, and the right hemisphere feeling hard, it was incised, when about a drachm of pale fluid escaped. The cavity had a glue-like appearance, and its wall measured in two or three places from three-quarters of an inch to an inch in thickness; the cut surface of the tumour was red, with a few vascular points here and there. All the natural white and grey matter had apparently disappeared.

Dr. Caton reports a case of cerebellar tumour in a man aged twenty-eight years, the nature of which is not specified, in THE LANCET of Oct. 30th, 1875. The symptoms were apparently brought on by over-exertion; the patient had pain, vomiting, and was ataxic. Ophthalmoscopic examination showed optic neuritis; the time of attack till death was only three months. Mr. Tay relates a case of glioma of the cerebellum in a boy aged nine years. The symptoms were those of ataxia coupled with vomiting. Trousseau, in the first volume of his Clinical Lectures, quotes Dr. Herard as having published in *L'Union Médicale* a case of this kind. The patient had lost the power of combining, associating, and co-ordinating the movements which make up the complex act of locomotion, standing, &c.,—*in fact*, was ataxic; but added to which was persistent vomiting and a want of the characteristic pain of locomotor ataxy.

Section of the tumour made after hardening in chromic acid showed a structure rich in round cells, with sparse intercellular substance containing a few vessels, and here and there patches of fibrous tissue similar to those seen in sclerosis of the spinal cord.

St. Helens, Lancashire.

CARDIAC THROMBOSIS FOLLOWING TYPHOID FEVER AND PNEUMONIA; RECOVERY.

BY H. M. DUNCAN, M.D. LOND.

IN the course of a long and active practice many opportunities have occurred to me of seeing cases of thrombosis and embolism. The fatal cases have not revealed any novel characteristics when examined after death, and therefore have not been brought before public notice. The one that I am now about to submit to the attention of the readers of THE LANCET seems of sufficient interest to be recorded. It will at least serve to show that, however formidable may be the symptoms with which we have to deal, we ought not to despair of success in our efforts to achieve a favourable result.

Mrs. C——, aged thirty-eight, of good constitution, regular and temperate habits, and rarely requiring medical aid, except in her labours, was delivered of her ninth child on July 21st, 1877. Her labour, as on previous occasions, was natural, of short duration, and unattended by severe hæmorrhage. The child of full size and healthy. Up to the fifty-fifth day from her confinement the patient went on favourably, recovered her usual strength, and suckled her baby. Her appetite and power of digestion were somewhat above the average.

On the 14th September, 1877, when I was from home, my assistant was summoned in haste. "He found that she was suffering from pain in the right hypochondrium, bilious vomiting, and diarrhœa," symptoms which he attributed to "congestion of the liver." They continued until the 22nd of September, when she came under my care. The sickness was still urgent, diarrhœa frequent, frontal headache constant. Pulse 100 to 120. Temperature of mouth 105° F. Abdomen tender, especially in right iliac fossa and hepatic region. Urine scanty and high-coloured, with copious deposit of lithates. Tongue dry and furred, red at tip and edges. On the following morning (Sept. 23rd) any doubts about the nature of the case were cleared away by the appearance on the abdomen of the rose-coloured spots of typhoid fever. These faded away, and were succeeded by other spots in the usual order, and the fever pursued a mild course, with but slight occasional delirium.

No time was lost in inquiring into the state of the drainage, and I found that for some time the closet had been in a "disagreeable state and occasionally stopped up"; sewage also was found to escape from a broken pipe leading from the closet, and the water-supply was derived from a slate tank over the closet, the waste-pipe opening into the pan.

On the 11th of October the patient was so much better, and felt so confident in her strength, that she induced the nurse to allow her to sit up in an arm-chair. A shivering fit and faintness was the result of this movement. I was summoned at 8.30 P.M., and found congestion of the lungs, more particularly in the posterior parts and bases. On the 12th, a troublesome cough, crepitant rhonchus, and the "rusty sputa" of pneumonia, showed themselves. Vigorous treatment led to great improvement in the space of four days.

On the 16th an alarming attack of syncope ushered in a new train of symptoms, characterised by increased difficulty of breathing, a leaden hue and an anxious expression of the face, exceedingly weak pulse, which could scarcely be felt at the wrist, and coldness of the extremities, which reminded one of the condition of a patient entering the third stage of malignant cholera. Nevertheless, the heart was tumultuous in its action, but occasionally irregular in its rhythm; its sounds, especially the first sound, muffled and accompanied by a slight murmur. The stimulants—viz., sulphuric ether, brandy, and tincture of lavender—which had previously been so serviceable when fainting occurred, now proved powerless to restore warmth and circulation. Friction, enclosing the limbs in cotton-wool, and the application of bottles of hot water, only slightly relieved the painful "cramps" in the legs.

It thus became obvious that obstruction at the orifice of the aorta was the cause of these new symptoms. Signs of coma strengthened this conviction. The sudden prostration

and insensibility in the commencement partook of the nature of syncope, presumably from the quick formation of the clot and incomplete passage of blood into the aorta. Soon the impulse of the heart was aroused to overcome the obstruction, and caused a larger current of blood to pass. But the stream supplied to the brain must have become less and less arterialised, or charged with oxygen, owing to the disturbed function of the lungs, and thus a comatose condition was induced. Everything seemed to point to the state called cardiac thrombosis. This inference was strengthened not only by the general symptoms and auscultation, but by the fact that the patient's easy and quiet mode of life, wonderful appetite and digestive power, with ample means of procuring all that she desired, were circumstances favourable to that condition of the blood termed hyperinosis.

Again, the puerperal state has been shown to be conducive to coagulation of the blood through the increase of the fibrine-generators and the pale corpuscles. In the presence of such increase in these constituents of the blood, may we not conclude that whatever disturbs the delicate balance by which they are held together in the normal state will lead to the conversion of plasmine into fibrine to such an extent as to cause coagulation within the vessels?

Should we, then, regard in the present case the action of the typhoid poison on the blood, as the active agent or factor in the process of coagulation? Or should we rather attribute the change to the retardation of blood in the pulmonary veins? Experience of the effects of stagnation of blood in the vessels, and the period of time at which thrombosis appeared in the present instance—namely, after, not before, the pneumonia,—lead me to adopt the latter view.

To be certain that I had not overlooked some fault in the valves of the heart which might have produced a mechanical effect, I visited the patient six days ago—i.e., nine months after her recovery. No valvular disease or irregularity of the heart's action could be detected. But although she looked, and stated that she was, "as well as she had been before her severe illness," a close examination elicited, "that if she hurried upstairs an unusual feeling of giddiness seized her, and sometimes led her to fear that she might fall." Her pulse was regular at 72, but weak. Weakness of the heart would account for the giddy feelings and "swimming of the head" under increased exertion. But my belief rather leans to the existence of a small embolus, the remains of the reduced cardiac clot, which, under the influence of increased circulation, is carried up into one of the cerebral arteries, and thus temporarily interrupts the circulation in a portion of the brain.

In the treatment of the case, the ordinary management of a typhoid patient was carried out, and no complication was encountered till pneumonia set in. For the latter the usual treatment was employed, the most beneficial means being extensive counter-irritation with acetum cantharides, followed by hot poultices. Bleeding was not employed.

As soon as thrombosis was diagnosed, it became a question not only of supporting the patient by stimulants (of which sulphuric ether proved of most service as a medicine, brandy and water and champagne as drinks, whilst beef-tea, milk, and farinaceous foods were used as nutrients), but, chiefly, how to get rid of the clot. As the latter was in all probability closely interlaced at one extremity, or whipped in among the chordæ tendineæ, could any chemical or resolvent means be used for dissolving or diminishing its bulk, if not wholly removing it from its attachments?

Experiments upon blood immediately after its removal from the living body, and the researches of Dr. Richardson, indicate that the alkalies have the property of softening and resolving such deposits. Accordingly, bicarbonate of potash in doses of ten grains, with sesquicarbonate of ammonia in doses of five grains, were administered every two hours when the patient was awake. Subsequently five-grain doses of iodide of potassium were combined. Occasional fits of dyspnœa were benefited by sulphuric ether, tincture of belladonna, and tincture of Indian hemp. The liver and bowels were kept in order by occasional doses of calomel, followed by sulphate of magnesia and bicarbonate of soda. At a later period compound tincture of bark was combined as a tonic with the soda. The progress of the case was exceedingly slow, and tried the patience of the sufferer and the friends, but a gradual improvement showed itself after the first week, and by Dec. 11th I was able to give up the case as cured.

Pimlico, S.W.

ANALYSIS OF ONE THOUSAND CONSECUTIVE MIDWIFERY CASES.

BY THOMAS NEWHAM, M.D.

IN the following record I adopt the plan laid down by Mr. Plaister in THE LANCET of October 20th, 1877.

Of the total number of children born (1013), 518 were males and 495 females.

Twins occurred nine times. In all cases the second child followed immediately after the first. In two cases both heads presented; in three cases head and breech; in one case breech and arm; in one case both children presented by the breech; and in two cases the presentations were head and hand. All, except one, were born naturally.

Triplets occurred twice. In one case all were head presentations; in the other, all footling. Children born alive, but died within three days.

The *breech* presented in fourteen cases, and in three of these the blunt hook was used.

Arm presentations were only two in number. Turning in both was comparatively easy.

The *face* presented in six cases. No special difficulty occurred, but all the labours were lingering.

Footling cases occurred six times.

The *head and one hand* presented nine times. There was no special difficulty except in one case, where turning was performed easily.

The *placenta* was adherent in eleven cases, and had to be removed by the hand. Two cases of hour-glass contraction were speedily overcome by the action of chloroform. In no case had there been excessive hæmorrhage.

Forceps were used in thirty-three cases, and were rendered necessary chiefly from failure of expulsive pains when the head was at the outlet of the pelvis; in two cases (mother and daughter) from contraction of the brim, both of which were exceedingly difficult, narrowly escaping craniotomy. Five cases were owing to the large size of the child, and occurred in primiparæ.

Rupture of the perinæum has occurred only to a slight extent, in no case requiring any other treatment than keeping the legs well together for a few days.

With Mr. Plaister I regret that I have kept no record of cases in which ergot was used. Unlike him, I have the greatest confidence in the certainty of its action and in its beneficial results. I have given it always in the form of fresh powder, in doses of one drachm, stirred up in warm tea. This dose has rarely been repeated. There were many cases where the forceps would have been necessary but for the action of the ergot, and I need scarcely point out that the patients infinitely prefer the medicine to the operation. In cases where I formerly used forceps I have since found the ergot sufficient for delivery, and I am convinced that it is much less productive of contusion and laceration of the soft parts. I attribute the absence of excessive hæmorrhage in my cases to the free use of ergot just before delivery. The child is expelled, the placenta detached, and the uterus contracted in a few minutes. One pale, flabby woman has been attended in five consecutive confinements. In the first two there was adherent placenta. Warned by this, and by her slow recovery, I have given ergot the last three times, with the effect of rapidly completing the labour and accelerating recovery. I have no doubt that ergot has been administered in fully one-third of my cases.

No death has occurred from purely puerperal causes. Two women died within one month, from phthisis; one within twenty-four hours, from malignant disease of the liver of long standing; one woman, subject to epilepsy for several years, had an attack of decided epileptic character at the moment the child passed into the world, and before the placenta was extracted. In this case the labour progressed well up to the time of the attack. Urine, passed a few minutes before, had no trace of albumen. One case of death was remarkable. The patient was attended by me in six labours. Soon after the first she became the subject of ovarian disease. Its progress was unusually rapid, and paracentesis was performed at the sixth month of her second pregnancy, when three gallons of fluid were evacuated. No difficulty ever occurred in her labours. Between every succeeding pregnancy she was tapped, and the same quantity of fluid drawn off. During the last pregnancy the operation

was performed twice, the last time within two months of the confinement. She was safely delivered of twins. The expulsive pains were severe, and had the effect of rupturing the ovarian cyst into the peritoneal cavity, with consequent acute peritonitis and death in three days. The post-mortem examination showed a large unilocular cyst of enormous capacity, with a huge rent at its upper part. The whole case occupied ten years, the woman dying at thirty-four.

I have given my analysis as concisely as possible, with no idea that I am contributing anything new upon the subject, but only as a record of cases occurring in a purely agricultural district.

Winslow, Bucks.

COMPOUND COMMINUTED FRACTURE OF SKULL,

WITH LACERATION OF DURA MATER AND CONSIDERABLE BRAIN-LESION; HÆMORRHAGE; RECOVERY.

BY G. B. ROBATHAN, M.R.C.S.

THE following case, which occurred in my practice about three years ago, and of which I now forward the notes, is, I think, a good sequel to that of Professor Pirrie in THE LANCET of July 21st, 1877.

On Sept. 1st, 1874, whilst returning home after seeing my patients, I overtook a cart which was conveying to his home a boy aged sixteen, who I was informed had met with an accident. I stopped the cart and at once examined him. His principal cause of anxiety was loss of power and partly of sensation of the right arm, which he thought was either broken or out of joint. Such was not the case. He was very pallid and evidently suffering very considerably from shock, but was perfectly conscious. He also said that he had a blow on his head, which was nothing. I carelessly looked at it and sent him home, saying I would be there as soon as he was. The circumstances attending the accident are as follows:—He was waiting his turn at the bottom of a coal-pit, three hundred yards deep, to come to the surface, when a piece of broken tram-wheel fell down the pit (from what height cannot be ascertained) and struck him on the head, rendering him senseless.

On arriving at the house and carefully examining the scalp wound, I found a comminuted fracture of the left parietal bone,—at the spot, I should imagine, where the parietal foramen would be found. There was free hæmorrhage from a small artery; and four pieces of bone (the largest and most depressed being about three-quarters of an inch long) were driven into the substance of the brain. The first piece I removed easily, but the other three were removed with some difficulty by a small bone forceps, the last piece going deeper at each attempt at removal, and being at least two inches from the surface, judging from the depth my index finger went out of sight. The boy complained of no pain whatever, and had no sickness. A small portion of brain-substance, and several clots of blood, some as large as filberts, were forced out of the wound by the finger. I ordered perfect rest, and cloths dipped in cold spring water to be constantly applied. I now append the daily notes.

Sept. 1st (day of accident).—4 P.M.: Pulse 78. 8 P.M.: Pulse 144.

2nd.—8 A.M.: Pulse 120. 1 P.M.: Pulse 100. Gave this morning a couple of grains of calomel, and a saline aperient during the day. The bowels have acted, and he has passed urine three times.

3rd.—11 A.M.: Pulse 100; he is cheerful, and slept well.

4th.—Doing well. Pulse 93, somewhat intermittent; wound healthy. He feels hungry.

5th.—Still doing well. Has regained slight power over the thumb and fingers of the right hand.

6th.—Pulse 76. Slight use of arm as high as the elbow.

9th.—Pulse 80. Has regained use of the whole arm.

23rd.—Progressing favourably. Wound of scalp closing. Allowed to rise, and has been helping his mother to peel potatoes.

24th.—Scratched his head last night, and slightly opened the wound.

Oct. 4th.—Wound now entirely healed, and scab fallen off. Has been to the surgery, and says he feels able to do anything.

In conclusion, I may add there was also a certain amount of paralysis and loss of sensation of the whole right side, with the exception of the face, which has quite disappeared.

Brighton.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

RETINITIS, ALBUMINURIC; IMPROVEMENT AFTER PREMATURE CONFINEMENT: REMARKS.

(Under the care of Mr. C. MACNAMARA and Dr. POTTER.)

A WOMAN aged thirty-six was admitted on April 18th. Her husband was a strong, healthy man, in good circumstances. She had been married eight years, and had had two children; she was pregnant for the third time when she came under observation. There was no trace of syphilis or other inherited disease in her family history. She had enjoyed good health up to within a short time of her admission, with the exception of severe headaches. After an aggravated attack of headache, about the 1st or 2nd of April, her eyesight suddenly became dim, and continued to fail day by day, so that on April 12th she applied to Mr. Macnamara at the Royal Westminster Ophthalmic Hospital, when, according to Mr. Mackinlay's notes, her vision was *nil* with the right eye; with the left she could make out No. 8 of Snellen's test-type at eleven inches. The urine contained one-half albumen. In both eyes a number of small, raised, white patches were seen arranged concentrically around the upper and outer part of the optic disc, as well as scattered over the fundus of the eye; the retinal vessels could be traced over many of these spots; the margins of the disc were fairly well defined, the retinal veins slightly enlarged, and in many places bright spots of hæmorrhage were seen in the retina. Large floating bodies were observed in the right vitreous.

On admission, she could only read No. 20 Snellen at four inches; her head was so dizzy she was in constant fear of falling. Under these circumstances, as she was only six months pregnant, Mr. Macnamara urged her to go into the Westminster Hospital, and put herself under the care of Dr. Potter, in order that a premature confinement might be brought on, it being Mr. Macnamara's opinion that unless this means were at once adopted the sight would inevitably be entirely lost. There was also considerable risk of her dying of convulsions during confinement if pregnancy were allowed to run its natural course. The urine at this time contained three quarters albumen, with a few large and some small faintly granular casts.

On April 27th, Dr. Potter brought on premature confinement, and under his treatment the patient made a very favourable recovery, so that she was able to leave the hospital on May 23rd. The urine then contained only the slightest trace of albumen. Six months after she came under treatment she could get about, and perform her household duties. She was able to make out No. 15 Snellen with the right eye, and No. 11 with the left at six inches. No spots of hæmorrhage could be detected in either eye, but the glistening patches remained in the fundus of the right eye; in the left they could no longer be seen. The urine contained only a trace of albumen, if any.

Remarks.—This is the third case of the kind Mr. Macnamara has met with, in which rapidly-advancing blindness during pregnancy with albuminuria has been arrested by premature confinement. In the first case the patient retained her sight, and lived for seven years after her confinement, ultimately dying from disease of the kidneys. The second patient is still alive, and has fair sight five years after premature confinement. The case above recorded is the third. In this instance there could, Mr. Macnamara thinks, hardly be any difference of opinion as to the course

to be followed, for this patient was pregnant only six months, and the disease in her retinæ was making rapid progress, so that in all human probability she would have become blind in the course of a short time. Moreover, there was less risk to her life during a premature confinement than in labour if pregnancy had been permitted to run on until the ninth month. But in cases of this form of retinitis, in which the sight commences to fail during the seventh or eighth month of pregnancy, the question of a premature confinement is an extremely difficult one. As a rule, the risk under any circumstances is considerable, but the danger to life from convulsions during confinement is generally greater the longer the birth of the child is delayed.

With reference to the sight, every week the confinement is postponed, after symptoms of rapidly-advancing retinitis have declared themselves, the greater the risk of permanent loss of vision, for the destructive changes in the retina are apt to make sudden, frequently rapid, and irrecoverable strides in cases of this kind.

MIDDLESEX HOSPITAL.

STRANGULATED FEMORAL RUPTURE IN A MAN AGED EIGHTY-FOUR; OPERATION, SAC OPENED; OMENTUM ALMOST GANGRENOUS; DEATH ON THE THIRD DAY FROM PERITONITIS.

(Under the care of Mr. HULKE.)

AN old man, aged eighty-four, formerly a hall-porter, was admitted Dec. 20th, 1876, with an oblong swelling lying superficially along the right groin, not particularly tender or painful. It had, he said, come the day before, but for many years he had had in the same place a little knot, which, however, had never troubled him. Since the appearance of the swelling the bowels had not been moved, and he could not keep anything on his stomach.

The swelling was plainly a femoral rupture, and, being irreducible by taxis, it was at once operated on. As the strangulation was recent and the symptoms had not been acute, reduction without opening the sac was attempted, after section of Gimbernat's ligament and some deeper fibres of fascia immediately outside the neck; but the contents only partially returned. The sac was then opened, and found to contain a mass of omentum, swollen and friable, nearly black from congestion and hæmorrhage. This was cut off, and the wound was lightly dressed, a drainage-tube being put in its lower angle. Throughout antiseptic precautions were used. Peritonitis followed, and death on the third day.

NORTH STAFFORDSHIRE INFIRMARY.

ENCYSTED HYDROCELE OF THE TESTIS.—SUBCUTANEOUS RUPTURE OF A HYDROCELE.

FOR the following notes we are indebted to Mr. W. A. Frost, F.R.C.S., house-surgeon.

Encysted hydrocele of the testis.—This was perhaps one of the largest, if not the largest, encysted hydrocele of the testis on record. A swelling had existed in the left side of the scrotum for forty years, but during the last three or four years had increased rapidly. The swelling was heart-shaped, with the apex downwards, measured eighteen and a quarter inches in circumference, and was slightly translucent. The left testicle could not be felt; the inguinal canal was clear; but the penis was buried in the swelling. The hydrocele was tapped, and fifty-two ounces of milky fluid withdrawn. This fluid contained an abundance of well-formed spermatozoa, and was free from albumen (? a trace); specific gravity 1005. Nothing abnormal could be felt about the testicle.

Subcutaneous rupture of a hydrocele.—A man aged forty had suffered many years from a hydrocele, which had never been tapped. One day he received a blow on the part; in a short time the whole scrotum became diffusely swollen. When seen about three hours after the accident the integuments of the scrotum were œdematous, and black from extravasated blood. The scrotum was elevated and evaporating lotions applied. In about ten days all the swelling and ecchymosis had disappeared, leaving everything apparently quite normal. As the patient never presented himself again, it is not known whether the hydrocele refilled.

YEDO HOSPITAL.

ANEURISM OF POPLITEAL ARTERY; FAILURE OF FLEXION AND COMPRESSION; LIGATURE OF FEMORAL ARTERY WITH CARBOLISED CATGUT; RECOVERY.

(Under the care of Dr. PURCELL and Mr. ANDERSON.)

E. R——, aged forty-five, lighthouse-keeper (Englishman), was admitted in September, 1875, into the hospital of the Public Works Department, under the care of Dr. Purcell, suffering from aneurism of the left popliteal artery.

The aneurism was of about twelve months' duration; no cause could be assigned for its appearance. Its increase had been progressive, but it had not up to the time of admission prevented moderate exercise.

The patient had always enjoyed good health, but said he had lived a rather "rough" life at sea for many years. He looked about five years older than his alleged age, but was strongly built, and presented no signs of premature decay. The other arteries were apparently healthy.

The aneurism was about three inches in its transverse diameter, and projected chiefly towards the back and outer part of the ham. The superjacent integument was neither tense nor discoloured. The sac-wall was apparently thin; pulsation and bruit were very distinct. The limb was slightly œdematous; the superficial veins were a little enlarged; no pulsation could be discovered in the anterior and posterior tibial arteries. Neuralgic pains in the foot were complained of.

Extreme flexion of the leg was tried for four days, but was discontinued at the desire of the patient, who was unable to bear the constrained position any longer. No effect upon the aneurism had been produced.

Compression of the femoral artery by a tourniquet (Signorini's) was afterwards adopted, but could not be borne for a sufficient length of time, notwithstanding the frequent administration of narcotics to deaden sensibility. After the discontinuance of this treatment the condition daily became worse, the tumour enlarged slightly, the pulsation became more distinct, the œdema of the leg increased, and the pain in the foot became so severe that repeated doses of morphia were necessary for its alleviation.

On Dec. 9th Dr. Purcell requested Mr. Anderson to see the case in consultation with him.

On the 11th a second attempt at cure by compression was made. A Signorini's tourniquet was applied over the femoral artery, and the Japanese medical officers of the Naval Hospital kindly volunteered to keep constant watch for thirty hours. The patient was maintained in a state of semi-narcotism by repeated injections of morphia, and complete compression of the vessel was effected during nearly the whole of the period, partly by the tourniquet and partly by the thumbs of the watchers. The point of pressure was varied from time to time, to lessen as far as possible the injurious local effects of the treatment. At the end of the time the pulsation in the aneurism was decidedly diminished in force, and the pain in the foot was considerably relieved, but the condition of the soft parts at and around the situation of compression by the tourniquet-pad was too threatening to allow further perseverance in the use of the instrument. The slight improvement gained by the experiment continued for about seventy-two hours and then gradually disappeared, leaving the aneurism on the 17th in its original state. The skin over the soft parts corresponding to the points of application of the tourniquet-pad was then rather dark, and a few vesicles had formed upon it; the adjacent tissues were œdematous. The man's strength had begun to fail.

On Dec. 18th, ligature of the femoral artery, at the apex of Scarpa's triangle, was performed by Mr. Anderson, chloroform being administered by Dr. Purcell, and assistance given by some officers of the Naval Hospital. The operation was rendered rather difficult by the infiltration of the tissues, down to the sheath of the artery, with extravasated blood-serum. A carbolised ligature was applied, the ends cut short, and the wound was closed as accurately as possible. Pulsation in the tumour ceased immediately after the tightening of the catgut. The usual after-treatment was carried out.

On the following day the wound looked healthy, and the limb was warm and comfortable, although somewhat benumbed. The temperature (in axilla) was raised to 100·2°, but in other respects the general condition was satisfactory.

From this time until Jan. 6th nothing worthy of special note occurred, except the formation of a superficial slough at the seat of operation, and its subsequent separation, leaving a healthy granulating surface. The bad ventilation of the hospital, however, appeared to retard the man's constitutional progress.

On Jan. 6th the wound became suddenly inflamed, and an erysipelatous redness extended around its margins for some distance. Febrile symptoms appeared, and on the following day a rigor occurred. On the 8th the wound was sloughing extensively and discharging a scanty, ill-formed matter; the parts around the slough were hot, dusky red, swollen, and acutely tender. The patient was intensely depressed, mentally and physically; face sallow; tongue thickly furred; pulse frequent and feeble; skin clammy, but, at the time of examination, not hot; he had been feverish on the previous evening, and perspired profusely in the night. The bottom of the wound was carefully opened, exposing a cavity, about the size of a filbert, containing a small quantity of very foul pus. The wound was syringed freely with permanganate of potash lotion, and a poultice was applied.

The bad symptoms disappeared almost immediately, and in a few days the wound was again healthy. The man left the hospital, cured, on Feb. 10th.

The interest of this case lies chiefly in the success of the carbolised ligature, which set up no irritation even during the sloughy condition of the wound, which had been induced apparently by bad hygienic circumstances. Had an ordinary ligature been used, the unhealthy inflammation would probably have been conducted by the thread to the vessel, and would have caused extreme danger of secondary hæmorrhage. In the present case the deep tissues appear to have closed immediately over the vessel and its organisable ligature, forming a protective wall which shut off the important structures completely from the surface wound.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Distal Deligation of the Carotid and Subclavian Arteries for Innominate Aneurism.

THE ordinary meeting of this Society was held on the 10th inst.; Dr. C. West, President, in the chair. Only one paper was read. It was by Mr Barwell; and it dealt with three cases of distal ligature of the carotid and subclavian arteries for innominate aneurism—two with success. These patients, both females, and one only twenty-seven years of age, were shown to the Society. Messrs. Heath, Holmes, and Kelburne King took part in the discussion.

In declaring the result of the ballot for the election of new Fellows, the President congratulated the Society upon the following additions to the list of honorary Fellows: Sir John Lubbock; Professor Guido Baccelli, M.D., Rome; Noel Guéneau de Mussy, M.D., Paris; Professor Friedrich Wilhelm von Scanzoni, of Wurzburg; Professor Theodor Schwann, M.D., Liège.

The following is an abstract of Mr. BARWELL'S paper on three cases of Distal Deligation of the Carotid and Subclavian Arteries for Innominate Aneurism. After referring to a case of innominate aneurism which he had successfully treated by double distal deligation, and which is published in the Transactions of the present year, the author related the case of J. B——, a man aged forty-eight, who died from the effects of the anæsthetics thirty hours after the operation. The parts, showing very large aorto-innominate aneurism, were exhibited. The operation was performed on Dec. 6th, 1877. On that day Mr. Barwell also tied the same vessels for Laura G——, aged thirty-seven, who had a pulsating aneurismal tumour perforating the upper anterior wall of the chest on the right side, and also above the clavicle. Except for the aneurism, the patient appeared healthy, but extremely nervous and excitable. After the operation no brain symptoms were developed nor any pyrexia, but her progress was fluctuating, the variations appearing to be in part connected with the catamenial period, in part with her mental condition. The patient left the hospital in July, having no tumour, though pulsation from the solidified aneurism communicated by the aorta could still be felt. On January 10th, 1878, Mr. Barwell tied the same vessels for Catherine H——, aged twenty-seven, who had a visible pulsating tumour, about the size of a small walnut, above and a little outside the sterno-clavicular joint, and also intra-thoracic aneurism. This patient, rather feeble and extremely nervous, also made a fluctuating recovery. She had no cerebral symptoms and no pyrexia. She left the hospital on July 22nd, a tumour remaining in the above situation, and though probably not quite, yet is nearly (Mr. Barwell believes) solid. The cough and dyspnœa, from which she had previously suffered, have quite disappeared. After some remarks concerning the excitability of the vaso-motor system, which in these patients always accompanied the menstrual period, the author gave his views concerning the use of catgut as a ligature, and stated his belief that with such material it is advisable to tie the vessels with very moderate force, so as not to divide the middle coat. He attributes his success to this mode of tying. The statistics of these operations are as follows:—Including the subjects of the present paper eleven cases in all have been thus treated; of these eight have been unsuccessful, all of them dying at various periods from the effects either of the aneurism or of the operation. The case Mr. Barwell recorded last year and the two now related constitute the three successful ones.—Mr. BROOKE directed attention to a form of spiral aneurism needle he had devised about twenty years ago, which had fallen into disuse, and suggested that by its means possibly Mr. Barwell might have surmounted the difficulty he met with in passing a needle round the subclavian in one of his cases.—Mr. CHRISTOPHER HEATH said he believed the case upon which he operated in 1865 was the first—at any rate, within recent times—in which double distal ligature was practised. Mr. Barwell was right in not including it in his list of cases, for although thought to involve the innominate artery at the time of operation, when, four years subsequently, the post-mortem examination was made the aneurism was found to be wholly aortic. At the same time it was a perfectly successful case, the patient's death being due to his intemperate habits, the aneurism bursting externally. (The preparation is in the museum of the College of Surgeons.) So much did that case resemble the case of the older of the two female patients shown by Mr. Barwell that Mr. Heath ventured to predict that in her case also the aneurism was mainly, if not entirely, aortic, and not innominate. The sphygmographic tracing did not show the characters of an innominate aneurism, and he believed that vessel was but slightly, if at all, involved. He had seen the case before operation, and would testify to the great benefit received by it, the chest having notably sunk in. In the other case the persistence of pulsation below the seat of ligature in the carotid was remarkable and difficult of explanation, but here also much benefit seemed to have been derived. Speaking of the catgut ligature, Mr. Heath could not think it possible, in an operation of such magnitude, to regulate the force with which it should be tied to the nicety insisted on by Mr. Barwell. Indeed, he thought it better that the coats should be divided than that the risk of imperfect ligature should be run; and in a case he brought before the Clinical Society last year, where a second ligature had to be applied, owing to the failure of the first, he believed this failure was due to the fact that he had not pulled the ligature tight enough. He held to the hempen ligature as being more secure and more likely to divide the coats of the vessel efficiently.—Mr. HOLMES agreed with Mr. Heath as to the difficulty in diagnosing between innominate and aortic aneurism. The only case in which he had performed the distal ligature with satisfactory results was one of aortic aneurism, beyond the innominate, in which he tied the left carotid. The patient's condition before operation was most critical, but the result of the treatment was that now—five years after—she is in health and pursuing her work. (The case is to be found in the Clinical Society's Transactions, vol. ix., p. 114, and vol. x., p. 97.) He could not see how ligature of the subclavian could do good, for if, when tied in the third part, the vessel became occluded, how was the circulation carried on in the limb? Such complete occlusion did appear to have taken place in Mr. Barwell's

first case read before the Society a year ago, but still the difficulty remained to account for the collateral supply. In the two cases shown that evening it was evident that a great part of the subclavian was pervious, for the circulation was well carried on in the limb. Indeed, *à priori*, he would think that the circulation would even be increased in the unobliterated part of the vessel. There is in the museum of St. George's Hospital an instructive preparation of the spontaneous cure of an aortic aneurism. The patient was a sailor, and the aneurism was a large one. He was attacked with hemiplegia, and from that time the aneurism began to consolidate, so that when he died (from some intercurrent disease), some years after, the carotid was found entirely blocked, but a small channel was left through the aneurism by which the subclavian circulation had been kept up. Believing then that, save under very exceptional circumstances, the circulation through the subclavian must go on, he could not but regard ligature of that vessel as a hindrance rather than a help to the formation of clot in the sac. The best plan would be ligature of the carotid artery only, the coagulation extending downwards from that vessel into the aneurism. One of Mr. Barwell's cases presented pulsation above the clavicle, as if the carotid had not been completely plugged; but possibly, as Mr. Barwell suggested, this pulsation was transmitted from below. He agreed with Mr. Heath that a catgut ligature should be tied as tightly as a hempen one, there being more risk from tying it loosely than from division of both the inner and middle coats, and a case he had recorded showed that the catgut remains on the artery for some time after its application. Cases had occurred where, after the vessel had been tied with catgut, the circulation had been re-established, and in such cases possibly the ligature had been tied less tightly than habitually. He congratulated Mr. Barwell upon his success, and thought his cases would give a great impetus to the operation of distal ligature.—Mr. HEATH pointed out that Mr. Holmes's case entered into a different category from those under consideration, for in that case the ligature was applied to the *left* carotid.—Mr. HOLMES said although the cases were different the process of cure was the same—viz., extension of coagulation from the obliterated carotid into the aneurism from which the artery springs.—Mr. KELBURNE KING (Hull) said his reason for tying both vessels in his case, which had been referred to by Mr. Barwell (see THE LANCET, vol. i. 1878, p. 823), was that the pulsation in both carotid and subclavian was very strong, and he did not think ligature of the carotid alone could possibly be enough. The patient survived one hundred and eleven days, and the large aneurism (aortic and innominate) was found filled with coagulum, which extended into the subclavian as far as the seat of ligature. He believed that for a time the collateral circulation was carried on through the subclavian branches, and that the clot extended into the trunk of the vessel at some period subsequent to the ligature. If he had to do the same operation again, he could not with any satisfaction apply the ligature to one vessel without also applying it to the other.—Mr. BARWELL, in reply, said that the persistence of pulsation below the seat of ligature on the carotid in the younger patient had been a source of anxiety to him; but he thought it possibly due to the presence of a channel of blood behind the main clot in the sac, and he had little doubt that it would eventually consolidate. He would keep the case in view. Mr. Heath's case was undoubtedly the first successful instance recorded of double distal ligature; and although his own case (that of the elder woman) might be aortic, yet he thought the manner in which the tumour rose above the clavicle and into the episternal notch proved it to be largely innominate in origin. He did not think that ligature of the left carotid for aneurism of the arch, as mentioned by Mr. Holmes, could be compared to the distal operation for innominate aneurism, whence two large streams of blood were flowing, the larger being that going through the subclavian. According to Mr. Holmes's view, occlusion of the smaller of these two streams would suffice. Mr. Erichsen had argued the question, and decided in favour of the ligature of both vessels. He (Mr. Barwell) thought Mr. Holmes went too far in stating that ligature of the subclavian in the third part would increase the stream on the cardiac side of the ligature. Surely it must decrease it; and their main object was to diminish the force of the current in the aneurism. It was true that in the case he brought forward last year the subclavian was found to be occluded, and he confessed his inability to explain how the circulation had been carried on in the limb. But he believed that the longer collateral circulation was delayed, the more chance there was of the cure of the aneurism; for in the case in which some months elapsed before the pulse returned in the radial artery, the result was more satisfactory than in the one where the radial pulsation returned rather rapidly. He would even go further, if he dared, and apply an Esmarch's bandage to the limb, with a view to prevent for a time free circulation through it, and thus promote stagnation in the aneurismal sac. As to the mode of ligature, it was a matter of indifference whether the inner coat were divided or not, but division of the stronger middle coat should, he thought, if possible, be avoided. In using the silk ligature there was always a risk of secondary hæmorrhage occurring when it separated, adhesions only preventing this, whereas the catgut was left on the vessel. His plan was to tighten the ligature sufficiently to arrest pulsation beyond, then to stretch it a little beyond this to allow for slipping, and then to tie the second knot; and he believed that cases of return of pulsation after ligature by catgut were not due to the ligature being too loosely tied, but in consequence of the second knot slipping. The risk of such slipping of the knot was one objection to catgut, which varies very much in quality, and he was at present engaged in devising some material for ligatures which should not divide the coats too much, and yet be capable of being tied with a firm knot.

MEDICAL SOCIETY OF LONDON.

Dyspepsia from Impaired Movements of Stomach.

AT the meeting on Dec. 2nd—Mr. Erasmus Wilson, President, in the chair—a paper was read by Dr. LEARED on a neglected proximate cause of Dyspepsia. He pointed out that all varieties of dyspepsia were referable to two divisions—atonic, and those depending on gastritis; the cause of the symptoms of functional dyspepsia being retarded conversion of food into chyme. There is a large class of cases in which digestible food, even in moderate quantity, is not digested with ease, and yet, in spite of much daily discomfort, the general health is hardly affected. The food is digested slowly, but effectually; there is no loss of flesh or strength; the appetite is unimpaired; and the defect cannot lie in the gastric juice. In by far the larger number of dyspeptic cases the lesion is not one of secretion, but of the proper movements of the stomach, which aid solution of food. Just as agitation of a glass containing water and crystals of a soluble salt will hasten the solution of the salts, so the attrition of the masses of food on one another by the action of the muscles of the stomach aids their digestion. Dr. Leared then described the arrangement of the muscular fibres of the stomach, and their action. In ordinary cases, whenever the contractile movements of the stomach are lessened, flatulent distension follows—due to lodgment of the food in the lowest parts of the stomach and its fermentation there,—and the distension of the viscus with the gases thus evolved, as well as probably from the small intestine. Flatulence, so common a symptom in such cases, acts harmfully by stretching the muscular fibres and impairing their tonicity. Dr. Leared therefore suggests that dyspepsia should be divided, not into atonic and inflammatory, but into "dyspepsia from impaired motion" and "dyspepsia from defects of secretion." In the former, uneasiness after meals, flatulence, and constipation are marked symptoms; in the latter, pains of sharp, shooting, dull, or dragging character predominate, the above symptoms being far less prominent, or even absent; indeed, from imperfect digestion of food in the cases due to deficient secretion, diarrhœa may be set up by irritation of the intestines by undigested food. As to treatment, regulated diet was the chief measure, the principal meal to be taken early in the day before the nervous system has been exhausted by mental or bodily exertion. Strychnia, in the form of the tincture of nux vomica, is the most valuable drug for this condition, and should be administered freely. Although Chomel's condemnation of the drug had been endorsed by Brinton, strychnia has held its place as a remedy for dyspepsia. It should not be prescribed in pills, because

of the difficulty of its exact subdivision, and the tendency of the alkaloid to precipitation by alkalies should be borne in mind. A dose of one-twentieth of a grain, given three times a day, should rarely be exceeded. The cases suitable for its employment required selection. Faradaism was not of much service; carbolic acid, or preferably, perhaps, thymol, checks flatulency by hindering fermentation; charcoal is of use in extreme flatulency for absorbing the excess of gases, the best form being that made from vegetable ivory. In a few obstinate cases passage of a long tube was necessary to relieve distension.—The PRESIDENT inquired of the author as to the time at which he would administer strychnine in flatulent dyspepsia. Exception should not be taken to this drug on account of its powerful action—a reason which had been urged against arsenic, a harmless drug when properly given.—Dr. THEODORE WILLIAMS used strychnia largely in dyspepsia, but he would not go so far as the author in saying it was the drug for flatulent dyspepsia, in which regulation of diet was of most importance. The atonic dyspepsia of women, with accumulation of fluid in the stomach, well described by Kussmaul, Dr. Williams would be inclined to treat by nutrient enemata, and so give the stomach functional rest.—Dr. THOROWGOOD agreed with Dr. Williams as to the importance of diet. In flatulent dyspepsia oppression due to over-distension rather than pain was complained of, and such cases were best treated by concentrated nourishment, more meat and less farinaceous food. In the irritative variety the treatment should be the reverse. Chomel records a case where pressure over the stomach forced fluid out of the mouth. Dry foods, and not medicine, alone availed in such cases.—Dr. JOHN BRUNTON had found benefit from strychnia. Ill-performed mastication was a prime cause of dyspepsia.—Dr. CRICHTON BROWNE would not be prepared to limit dyspepsia simply to impaired action of the muscular coat of the stomach, as there might be excessive action or irregular action. The secretion, besides being deficient in quantity, might be altered in quality. Strychnia, besides acting on the muscular coat, undoubtedly increased the secretion.—Dr. FOTHERGILL mentioned the dyspepsia of heart disease due to interference with the gastric circulation. The great bulk of the dyspepsia of women is a reflex form associated with menorrhagia and an irritable condition of the ovaries. Vomiting of pregnancy was an allied condition to such cases, which he found yield to blistering over the tender ovary, free purgation by sulphate of magnesia, and quieting the nervous system by bromide of potassium.—Dr. CORK advocated the use of iron in dyspepsia.—Dr. DE H. HALL asked whether the constant current were not preferable to the interrupted.—Dr. LEARED, in reply, stated that he gave one-twentieth of a grain of strychnine half an hour before meals three times a day, and often combined with iron. The discussion had not kept to the subject he wished to draw attention to—viz., the relaxed condition of the walls of the stomach. Diet was of the utmost importance, but most of all in the condition of gastritis. He agreed with Dr. Fothergill as to the occurrence of sympathetic dyspepsia, and thought the constant current of doubtful value.

EPIDEMIOLOGICAL SOCIETY.

AT a meeting of this Society, held at University College, Gower-street, on Wednesday, December 4th (Surgeon-General John Murray, M.D., President, in the chair), Dr. HUBERT AIRY read a paper on "Infection regarded from a Darwinian point of view." Dr. Airy said those who accept the principle of the law of evolution by natural selection will readily admit that not only has bodily structure undergone modification in the course of ages, but also there must have been modification of functional properties. In order to fully understand the form and function of any organ, we ought to study it in relation to its historical development. This is now the object of the science of comparative anatomy. In like manner it must be admitted that disease, consisting as it does for the most part in disorder of form or function of certain organs, must itself be liable to variation. This feature must be one element in the rivalry of variant forms. The form which brings with it the least fatal appanage of disease will, so far, have the advantage over its rivals, and be more likely to survive. It is, however, possible that in some cases a greater liability to disease might be more than counterbalanced by some concurrent advantage gained in another direction. A disease, in short, has a history and a pedigree, which we ought to know, if we are to obtain a full scientific insight into its nature and relations. This should be the object of a new science of comparative pathology, parallel to that of comparative anatomy. A comparative study of disease in different races of mankind, especially in the lowest, extending to the quadrumana and thence downward through the whole animal kingdom, might be expected to throw light on many of the simple elements of disease, on inflammatory and degenerative changes, on malignant growths, and functional aberrations. Confining attention to the communicable diseases, there is ground for believing that in any disease in which a tendency to become infectious is at all possible, that tendency is likely to be developed and intensified in course of time. The more infectious the disease becomes, the more numerous will be the persons attacked by it, and the greater will be its chance of survival by reproduction. Similar reasoning leads to a similar conclusion in respect of hereditary disease. In either case the conditions are practically the same as those of a favoured variation in animal life, enabling its possessors to leave more offspring after their own likeness than other less-favoured forms. The two theories of infection which demand especial consideration are—(1) the germ theory, or theory of *contagium vivum*, of which, perhaps, Dr. William Roberts is the foremost advocate in the British medical world; and (2) the glandular secretion theory of Dr. B. W. Richardson. On the former hypothesis it is plain that we are dealing with a case of parasitic adaptation. If the contagium is a living organism, depending for its support upon human susceptibility, it must itself be capable of variation to match the variability of its human home and food. As the human syncrasy varies in the direction of insusceptibility, so the parasitic mycrozyme will, step for step, attain new virulence, and as long as man and microzyme are allowed to meet, there would seem to be no possibility of a cessation of the process. Natural selection would, however, be fairly satisfied by so much variation on both sides as should leave man susceptible of infection, but not in a fatal degree. The bearing of the Darwinian theory on the problem of infection, and especially on the *quasi de novo* appearance of infectious disease, is fully recognised by Dr. Roberts, from the germ theorist's point of view, in his address to the British Medical Association, August 1877, and also by Dr. Thorne Thorne in the paper already referred to. Dr. Richardson's theory, supported by striking experiments, that the contagium is the diseased secretion of one or other of the glands of the human body itself, which possesses the property of altering the kindred secretion in a previously healthy body by catalytic action, might at first sight appear to give little scope for the operation of natural selection; but it will be admitted on consideration that any matter which possesses the property—never mind how—of reproducing its like, with possible variations, is *ipso facto* subject to that law. If the first step be granted, that a morbid secretion can in any degree induce a similar morbid action in another body, there is no reason for denying that the process might in time attain the most virulent infectiveness. Spontaneous origination of infectious disease, on the glandular hypothesis, can hardly be understood unless we suppose that for each gland there is a certain specific disorder of function into which it is liable to fall, either under intrinsic nervous disturbance or under the contact-influence of foreign morbid secretion. The facts concerning diphtheria which suggested to Dr. Thorne the idea of "progressive development of infectiveness" were provisionally explained by him in terms of the germ theory; but they also admit of explanation on the glandular theory, when taken in connexion with Dr. Sanderson's experiments on the infectious properties of the exudation of simple peritonitis. It does not appear that the foregoing considerations lead to any decision respecting the intimate nature of infectious disease.

HEALTH OF DUBLIN.—The deaths registered in Dublin for the week ending Nov. 30th exceeded the births by 57. Small-pox caused 5 deaths, being 6 less than in the preceding week, but in other respects the hospital returns are unfavourable, 51 new cases having been admitted during the week, against 31 in the previous week.

Reviews and Notices of Books.

On Asthma; its Pathology and Treatment. By J. B. BERKART, M.D., M.R.C.P.L., Assistant-Physician to the City of London Hospital for Diseases of the Chest, &c. London: J. and A. Churchill. 1878.

IN this work, Dr. Berkart has made a vigorous attack on the prevalent opinion that asthma is a nervous affection, and in particular a bronchial spasm. He considers the paroxysm as "only one link in the chain of quasi-independent affections, which commences with inflammatory changes of the pulmonary tissue, and terminates with emphysema or bronchiectasis." According to this definition, the asthmatic fit is only a form of dyspnœa, which accompanies the gradual and latent progress of chronic bronchitis and emphysema (p. 117). In advancing this proposition, a very good account of the literature of asthma is first given, and the various views which physicians have entertained as to the mechanism of the dyspnœa are very fully and fairly stated. Most writers favour its nervous origin, and look upon a spasm of the circular muscular fibres of the smaller bronchial tubes as its immediate cause, and as sufficient to account for the phenomena of the fit; others believe that bronchial spasm and bronchial paralysis are both productive of typical attacks of dyspnœa, whilst a few, like Dr. Berkart himself, would seek an explanation in the condition of the pulmonary tissue. Traube, indeed, admits no other cause than a fluxionary hyperæmia of the bronchial mucous membrane; and explains the paroxysm by supposing that the swollen mucous membrane occludes the bronchi, and so causes an accumulation of carbonic acid in the blood, which irritates the respiratory centre, and induces tetanic contractions of the diaphragm and auxiliary muscles of respiration. Villemin even described a chronic catarrh of the pulmonary alveoli as the predisposing condition which led to this rapid hyperæmia, but other observers have failed to recognise it, and we must doubt whether such a condition as he describes is compatible with the absence of either subjective or objective symptoms. That such changes may follow or accompany a paroxysm is easily understood, and no one doubts the presence of a certain amount of capillary hyperæmia in its later stages, but more evidence must be brought forward before we can accept it as an invariable antecedent. We are inclined to look on Dr. Berkart's views in much the same light as we do on Villemin's, and although the nervous theory is severely handled by our author, we are not quite prepared to abandon it, and to accept his conclusions in its place. Dr. Berkart is fully justified in insisting on the proportion of cases in which bronchitis and catarrhal pneumonia have preceded the dyspnœic attacks, and on the undisputed fact that emphysema and bronchiectasis soon appear in the train of asthma, but more than this is required to demonstrate the non-existence of a nervous factor in the disease. We must altogether demur to the proposition that the "known pathology of the antecedents and sequelæ permits the safe inference that the stage intermediate between them also corresponds to certain textural changes," for when we examine the anatomical characters of the changes in this stage, as described by the author, we find that they are simply those of an ordinary bronchitis affecting the smaller tubes, or of an interstitial pneumonia, running on as usual to emphysema and bronchiectasis. They occur in everyone who suffers from chronic bronchitis, and are in no way peculiar to the comparatively few who are liable to that special form of paroxysmal dyspnœa which we term asthma. Indeed, Dr. Berkart has proved clearly enough that many attacks are called "nervous asthma" which are merely symptoms of cardiac, pulmonary, and renal disease, but he has not convinced us that no other cases exist. Asthmatic paroxysms cannot occur without leading to organic changes in the lungs, but to look upon the latter as the only factor in the disease is to take too limited a view of the affection. We cannot help sympathising with the author in his objections to any disease being so "capricious" in its attacks and intractable to treatment, but we still think that this caprice exists in true asthma, and is a strong evidence of a nervous element being concerned in its production. The explanation of the *modus operandi* of the various exciting causes of a paroxysm, the tendency to minimise the effect of inheritance, the absence of any reference to other neuroses in the relatives of the patient, and the estimate of the value of some of our remedies, such as chloral and the narcotics, will scarcely be accepted by those who have had the largest experience of the disease, or by those physicians who are so unfortunate as to be sufferers from it. We prefer saying that we do not understand the mode of action of many of the agents to which the onset of the asthmatic paroxysm is ascribed, or how some of the drugs to which its relief is attributed exert their influence, rather than to set them aside as mere cases of *post hoc ergo propter hoc*. Although we have come to the conclusion that Dr. Berkart's theory of the disease must be considered as not proven, we feel bound to state that it is most ably put forward, and that the work is a very valuable addition to the literature of asthma. Everyone who reads it will be led to examine most narrowly every case of urgent dyspnœa which comes under his notice before he dismisses it as a purely "nervous asthma."

Atlas of Diseases of the Membrana Tympani. By H. MACNAUGHTON JONES, M.D. &c., Surgeon to the Cork Ophthalmic and Aural Hospital. London: J. and A. Churchill. 1878.

The Pathological Anatomy of the Ear. By HERMANN SCHWARTZE, M.D., Professor in the University of Halle. Translated by J. ORME GREEN, A.M., M.D., Aural Surgeon to the Boston City Hospital, &c. Boston: Houghton, Osgood, and Co. London: Trübner and Co.

THE literary energy of aural surgeons seems inexhaustible. From Germany, France, Great Britain, and especially from America, there is an unceasing supply of fresh publications on diseases of the ear. It would be the merest platitude to say that much of recent literature in this department is of an ephemeral character. But amidst the chaff there have been occasional grains of good wheat. We are disposed to place the two works whose titles stand at the head of this notice in the latter class.

Dr. Jones's Atlas is not quite correctly designated, inasmuch as two out of the eight plates represent diseased conditions of the external auditory meatus and of the auricle. It is true, however, that the majority of the chromo-lithographic illustrations—fifty-four out of sixty-three—represent the appearance of healthy and diseased conditions of the tympanum and the membrana tympani. Of the general merits of the drawings we can speak in very favourable terms. It is not intended that this work should compete, either in artistic beauty or in cost, with the late Mr. Hinton's excellent and correspondingly costly Atlas. But Dr. Jones and his publishers may felicitate themselves on producing, at a comparatively small cost, an Atlas which gives correct representations of the chief diseases of the external and middle ear; and, considering the clinical material is drawn exclusively from a provincial town, it is, to say the least, a very creditable performance.

The appearance of the American translation of Schwartze's "Pathological Anatomy of the Ear," which was originally written for Kleb's "Handbook of Pathological Anatomy," is opportune. The descriptions are concise, but sufficient to give clear and correct notions of the pathology of diseases of the ear, and of the changes which result therefrom. The bibliography is fairly complete, and the whole is profusely illustrated with engravings of the morbid anatomy of the ear.

OUR LIBRARY TABLE.

Transactions of the Bristol Medico-Chirurgical Society. Vol. I. Comprising Abstracts from the Proceedings for the four years 1874–1878. London: J. and A. Churchill.—We are glad to welcome this volume of Transactions, and find in it conclusive proof of the prosperity of this Society. We have no doubt of the wisdom of the Council of the Society in deciding to publish the memoirs and reports presented at their meetings, and we trust that it will serve to stimulate the activity of all the members, and greatly increase the usefulness of the Society. Among the "Reports" are many very interesting cases. Mr. Dowson has a successful case of Removal of one half of an Hypertrophied Thyroid Gland; Mr. Lansdown records a case of Varicose Aneurism of the Orbit cured by ligature of the artery above and below it. Dr. Markham Skerritt has several very well-recorded cases, those of chief interest being an "Abdominal Aneurism becoming diffused after distal compression," and a case of Pyo-pneumothorax, in which subcutaneous emphysema followed pneumatic aspiration. There are two notable faults in the Transactions which should be remedied in the next issue; one is the want of arrangement, similar cases being found scattered irregularly through the volume, and the other is the want of uniformity in style of the "Reports," some of them being in the first person, others in the third.

Coal-mine Gases and Ventilation. By J. W. THOMAS, F.C.S. London: Longmans and Co. 1878.—This work has only as it were a collateral interest for medical readers, in that it treats of a very serious and fatal variety of accidents, that are continually occurring in this country, and appear to set at defiance all means hitherto adopted for their prevention. "On the Gases enclosed in Various Coals," was the heading of a treatise written by the author some time ago, and the work before us includes the treatise in a somewhat voluminous appendix, which, however, adds to, rather than detracts from, the aggregate value of the work. The formation, microscopical appearance, and varieties of coal are treated of, as also gases in coal, and the deterioration of coal by atmospheric influence. The most interesting chapters for our readers are of course those that relate to the spontaneous combustion of coal on board ship, and the ventilation of coal mines. As regards the former, Mr. Thomas proposes to apply a plan of ventilation to the holds of colliers that, as he declares, has been very successful with hayricks. But we may remind the author parenthetically that coal and coal dust are substances far more dense than hay (even when heated and much caked), and we may suggest that the tube perforations would often "block," and so be rendered useless. The question of mine ventilation is a very large subject, but we can refer our readers to this book with the assurance that they will find therein a great deal of useful knowledge, and very good material.

The Quarterly Journal of Microscopical Science. Edited by Professor RAY LANKESTER, Mr. ARCHER, Mr. BALFOUR, and Dr. KLEIN. October, 1878.—This number contains only three papers, but they are all of great value. The first is by P. Herbert Carpenter, on the Oral and Apical Systems of the Echinoderms; the second is by Mr. F. M. Balfour, on the Structure and Development of the Vertebrate Ovary; and the last is by Mr. Sydney Vines, on the Reproduction of Lichens and the Sexuality of the Ascomycetis.

The Preservation of Health in Tropical Climates. By GEO. W. THOMSON. Edinburgh: Maclachlan and Stewart. London: Simpkin and Marshall. 1878.—This small pamphlet is in many ways recommendable to anyone who starts for India at an early stage of working life with little or no practical experience of climates and their variations. There is nothing new in the book, but it is compiled in a common-sense and very readable style, and as such is likely to be useful to the classes above-mentioned.

New Inventions.

FARWIG'S SLOW-COMBUSTION CALORIGEN.

MESSRS. FARWIG, whose gas calorigen is already favourably known as one of the best gas-stoves extant, have lately patented a slow-combustion calorigen for burning coke, which promises to be at once an economical and efficient means of heating and ventilating. The stove very much resembles the gas calorigen in external appearance. It is lighted in the usual way with paper, wood, and small coke (broken into pieces not larger than a walnut), and when this is thoroughly ignited the stove is filled up with small coke, and may be relied upon to keep alight for twelve hours, the cost of fuel for that time being reckoned at one penny. This apparatus is fitted with a fresh-air inlet, which communicates both with the external air and with the apartment in which the stove stands. In this way a constant stream of heated *fresh* air is brought into the apartment. We have seen one of these stoves in action, and can speak confidently of its efficiency. The temperature of the air entering by the fresh-air tube was about 200° F., but the upper part of the flue was scarcely warm to the touch, so that it was evident very little of the heat generated in the apparatus escaped by the chimney. The slow-combustion calorigen is so constructed that during the process of stoking no fumes are allowed to escape into the apartment.

By the invention of the gas and coal calorigen and the slow-combustion calorigen Messrs. Farwig have contributed materially to the solution of very important hygienic problems. We understand that a sample of the gas calorigen has been deposited by the inventors in the Parkes Museum of Hygiene.

PATENT BULWARK LIFE-BUOY.

THIS life-buoy is invented by Mr. Birt, of Dock-street, and consists essentially of cork cylinders joined together by wood and metal braces. A series of these buoys can be placed along the bulwarks or topsides outside a vessel of any class, from an ironclad to a small river steamer, and will form a pair of mouldings on each side, without any unsightly appearance. The National Lifeboat Institution says in its report that 20 lb. buoyancy is enough to support a man with all his ordinary clothes on, and to keep his head and shoulders above water; so that our readers can readily calculate how many of the unfortunate persons drowned at the *Princess Alice* catastrophe might have been saved if several of these buoys (each of which has a buoyancy of 240 lb.) had been on board *and ready for use.* It is suggested that passenger river steamers should carry buoys having cylinders of 6½ in. diameter; with such an arrangement a ship with, say, about 300 feet of side would possess enough buoy accommodation to support 600 persons. The same principle is also applicable to the ordinary camp-stools so frequently used on steamboats, yachts, &c. Each of these will support two persons *if properly used.* The italics here and above are of course our own, for we desire to call attention to the well-known fact that, even when such things are provided, they are often found to be out of order when wanted, or the entire absence of self-possession on the part of the passengers renders such persons incapable of utilising any arrangement advantageously.

ABDOMINAL BELT.

THIS belt is contrived by Mr. Huxley, of Old Cavendish-street, for the treatment of cases of sacro-iliac tenderness and disease. The principle is simply to hold the bones forming the pelvis firmly together so as to allow of no motion between the sacrum and innominate bones, in order that the sacro-iliac joints may be kept perfectly at rest and possibly anchylose. The results of treatment by this plan have proved satisfactory in the hands of those surgeons who have employed the belt; and, considering the intractable nature of these cases, any aid to treatment will be welcomed by the profession.

THE LANCET.

LONDON: SATURDAY, DECEMBER 14, 1878.

WHATEVER may be the issue of the contemplated experiment at St. Thomas's Hospital with regard to "patients who can pay," it is impossible to doubt that the time has arrived when, in the interests of the public and the profession, some satisfactory answer must be found for the broad question raised. Is it right that patients who are in a position to contribute to their own support and, in many instances, also to provide moderate fees for medical attendance, should burden the charity of hospitals, and, being treated gratuitously by hospital staffs, deprive the general body of practitioners of fees which would form no inconsiderable part of their legitimate income? This may seem a selfish view of the question, but it is one the profession cannot, in common prudence, any longer disregard. It is useless to disguise the fact that the hospital system reacts injuriously on the profession. So far as the sick poor, who cannot be relieved by the public rates, are concerned, the ready and effective medical aid which charitable institutions afford is not grudged; but it is difficult to determine where the line of urgent need should be drawn. The success achieved by hospital physicians and surgeons—who have boundless supplies, the most convenient appliances, and the best of skilled nursing always at command—is, as it must be, conspicuous: and, attracted by the higher prospects of cure as well as seduced by motives of economy, persons who can very well afford to pay, and who, if no hospitals existed, would be treated at home, obtain admission to these charitable institutions. The practice of obtaining advice and, if possible, shelter, in hospitals, by the false pretence of poverty, is as common, and in public—we are ashamed to add social—estimation as venial an offence, as smuggling was in the last generation. *Employés* in receipt of good salaries, members of the families of well-to-do tradesmen, and even those of higher station, do not scruple to abuse the charity of these institutions and to evade the payment of just fees to medical men. More particularly is this the case in regard to special maladies, where the pitiful excuse of being unable to pay for the "best advice" is adopted to disguise meanness and dishonesty. This is a matter of great moment. Whether or not the physicians and surgeons engaged in hospital practice are unable to cope with the imposition, or find it worth their while to put up with it, every service rendered gratuitously to "patients who *can* pay" is an injury inflicted on the outside practitioner. It is in this view of the case we are chiefly interested, and that is why we would hail any honest effort to find a solution for the difficulty which the governors of St. Thomas's Hospital appeared ready to face, as we of course supposed, with the co-operation of the medical and surgical staff. The imbroglio which exists must not be allowed to lead to the question being shelved.

There are three classes of patients with which it is necessary to deal. First, the considerable number of sick persons who make their way into hospitals without being necessitous—that is to say, not so poor as to be unable to find shelter at their own expense, or that of their friends, and pay moderate fees to a practitioner. Second, the class of "cases" which are sent into hospitals by medical men with a view to secure for their treatment the highest facilities, but who can generally afford to pay something. Third, the by no means unimportant class of well-to-do folk who find it convenient or cheap to obtain admission for themselves, their relatives, or dependants, and who have no scruple in securing the benefit they seek under false pretences of poverty or temporarily straitened circumstances. The most intelligent and earnest endeavours to prevent abuses have proved ineffectual, and, as we have said, the time has come for stronger and more direct measures for the protection of public and professional charity, and the general interests of the medical profession, which are very seriously affected. No better scheme can be devised than a system which, while it affords facilities for the aid of really necessitous cases, shall compel "hospital patients who *can* pay" to contribute to the costs of their support and treatment. We do not think the difficulties of the problem to be solved have been adequately realised by any of the philanthropists who have attempted its solution, and certainly not by the Treasurer and Governors of St. Thomas's Hospital, acting so unaccountably without the medical staff of that institution! There is, however, a reasonable prospect of the question being fairly answered if only the facts are fully understood. Whatever is done must have the effect of deterring persons, who can secure shelter and nursing at home and pay moderate fees, from entering hospitals. It would be a great evil to *attract* patients to hospitals, and disastrous in an extreme degree if persons in decent circumstances should be induced to repair to a hospital under circumstances which would make that establishment a boarding-house for patients who without its aid could not be "under" this or that eminent practitioner.

All patients admitted to hospitals should be required to obtain admission through the general portal, and it ought to be proved to the satisfaction of a committee that they cannot afford to obtain medical advice by payment outside. It would be wise and practicable to institute a rule of universal application that no patient who has been under the care of a private practitioner should be admitted to a hospital without his recommendation or sanction. There is no disposition on the part of the profession to throw obstacles in the way of the reform suggested; and, for ourselves, we shall hail any scheme which, on close examination, affords promise of a satisfactory solution of this great and growing difficulty. Meanwhile it is essential to success that the obstacles and pitfalls which have been pointed out, and others which may be discovered, shall be fully recognised and avoided. The change made must be one which will secure the interests of the medical profession at large, and minimise the injurious effects of hospital charity on the outside body of practitioners in medicine, surgery, and general attendance, while it protects the funds subscribed for "the relief of the sick poor." Again we say amendment is possible, and it must be sought by enforcing the honest discharge of their obligations by hospital patients who *can* pay, and who ought to pay, not merely for the relief of hospital funds, but of the charity

of the medical profession, which now gives its services gratuitously. No other charity is so much and so recklessly abused as that exercised by medical men. A supplementary arrangement may perhaps be made for the accommodation of patients who are able to pay large fees, by appropriating vacant blocks or wards at hospitals for the purpose; but this arrangement, we agree with the staff of St. Thomas's in thinking—and, in point of fact, hinted in our first article,—should be wholly distinct from the scheme by which it is intended to meet the case of ordinary inmates, who will be required to contribute only to their own support, without regard to fees. The class of cases which are sent into hospitals by medical practitioners for special treatment might also be made the subject of a separate regulation; and in some, at least, of these cases, the attendance of the practitioner might be continued when he so desires. The whole subject is one for mature consideration and full discussion, but, as we are now chiefly concerned to insist, it must not be shelved.

WE have learned with much satisfaction that the Government of India, on reconsideration, decided to adopt the scheme of field hospital organisation proposed by the principal medical officer, and cancelled its previous order in favour of the regimental hospital system. It cannot but be matter for regret that it did not adopt these recommendations in the first instance, as the arrangements could have been made more easily, more perfectly, and more economically while the expedition was being organised. The change after the force had started, each corps having its complete hospital establishment, must of necessity have caused much trouble, and been attended with considerable unnecessary expense; but we have little doubt of the army organisation being promptly and efficiently brought into working order by Surgeon-General INNES, C.B., the principal medical officer. In anticipation of his recommendations being adopted, he had prepared "A Précis of Field Service Medical Arrangements, with Medical and Surgical Memoranda for the use of Medical Officers, British Forces." This handbook, which would have been useless under the regimental system, was ready for issue as soon as the change had been decided upon by the Government, and is very creditable to its author. It is short, clear, and practical, and while the author brings to the notice of the medical officers some valuable suggestions based on his own experience, he is particularly careful to let it be clearly understood "that he desires to avoid cramping that liberty of action and exercise of individual judgment, on the part of administrative or executive medical officers, so essential to an efficient working of the medical arrangements and their adjustment to such exigencies as may from time to time arise." He appears to appreciate the importance of getting the medical officers to work, not under, but with him, and therefore "indicates what he believes may prove serviceable hints in the field, to be adopted only so far as they commend themselves."

We shall briefly summarise the Field Service Medical Arrangements, as laid down in this handbook:—1. Each corps is to have attached to it one medical officer, one or more medical subordinates, and four servants, for the purpose of affording temporary succour on the field. The sick to be treated in doolies, supplemented by a small tent for each regiment and battery. 2. Divisional field hospitals for 5 per cent. of sick are to be formed, under the orders of the principal medical officer, four medical officers and five medical subordinates per 1000 men being provided, in addition to those with regiments and corps, and with a reserve of 25 per cent. to cover the losses of the whole, and provide for emergent miscellaneous duties. 3. Divisional base hospitals are to be formed at the base of operations for 7 per cent. of sick; and from these the sick will be sent, under special arrangements, to the nearest garrison or cantonment. 4. Rest-depôts are to be made, when practicable, on the type of the rest-camps on the line of railway, at which the relays of sick passing from the field- to the base-hospital can be sheltered, fed, and attended to (professionally and otherwise), transport animals watered, and the doolie-bearers rested. When this is impracticable, military convoys with stores, &c., must be utilised for the protection of sick and wounded *en route* to the rear. Sick carriage is to be provided in the proportion of eight doolies and two Hawke's feeder ambulances per 100 men, or, when ambulances are not available, 10 per cent. of doolies. In the event of the line of communication between the divisional and base hospitals being blocked, the transport will be supplemented by elephants and camel carriage, the latter with kudjawahs.

Such is a very general outline of the medical arrangements; detailed instructions are given on many subordinate points into which it is unnecessary here to enter. The sanitary requirements of the force have also received due consideration, and include conservancy, water-supply, rations, lime-juice, tea or cocoa (to be served out in the early morning when the troops are ordered under arms before breakfast), rum, tobacco, clothing, bedding, &c. There are also some very brief judicious annotations on various points of military surgery, and on the treatment of "medical diseases of field service." In the Appendix are given tables of the establishments attached to the hospitals, the medical stores and comforts, and the hospital furniture and equipment.

In a previous article[1] on the Medical Arrangements for the Afghan Campaign we stated that the transport under the regimental would be at least double that required under the army organisation. A table at the end of the "Précis" shows that we underrated the difference. A force of 2968 men would require for the hospital establishment under the regimental system a *personnel* of 293, and 128 camels for carriage; while, under the army system, the numbers would be 121 persons, 37 camels, and 11 mules—a difference not only involving a great saving of expense, but also relieving the army of a large number of unnecessary followers.

In a telegram from the Viceroy to the India Office, dated Dec. 4th, it is stated that "Surgeon-General INNES rode through [Khyber] Pass yesterday. ..... Rode most of the way without escort." We have no doubt that his mission to the front was to bring into operation the system he had recommended, and to remove any difficulties which might arise from so great a change being effected after the army had taken the field. We feel sure that, possessing as he does the confidence of the Commander-in-Chief, he will

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[1] THE LANCET, Nov. 23rd, 1878, p. 743.

be able to carry out successfully arrangements which have been so fully considered and so carefully matured.

IF we give ear to Sir JOSEPH HERON, "the premier town-clerk," as admirers not inaptly term him, the Corporation of Manchester is on the eve of solving, if, indeed, it has not already solved, the perplexed question of town conservancy. In this matter Manchester has persistently pursued a course of its own (and a very perverse course this has seemingly been), regardless of sanitary politicians, inspired sanitary barristers, sanitary engineers, sanitary doctors (except they were Manchester, or at least Lancashire, born), and sanitary associations, national or international, big or little. Stupendously self-reliant, as appeared fitting to the Corporation and people that the northern metropolis should be, and unaffectedly contemptuous of southern metropolitan notions of what town conservancy ought to consist in, Manchester has done what seemed right in its own eyes, notwithstanding the dismal warnings of outsiders that it had been struck with judicial blindness. The time has at last come when Manchester finds it necessary to justify her conservancy doings before the public, to descend from her lofty pedestal, and, like other ordinary towns, give an account of her stewardship in this matter. She has, in fact, to submit to the influence of that vulgar leveller of individuals and municipalities, pounds, shillings, and pence. In other words, Manchester wants to borrow money from the public purse for promoting certain measures of conservancy, and public money is not lent for such a purpose unless authorised by the Local Government Board after a local inquiry. It was on the occasion of such an inquiry, which was opened in the Town Hall, Manchester, on the 27th ult., that Sir JOSEPH HERON made the statement to which we have referred.

The inquiry related to a loan of not less than £200,000, which the Corporation proposes to borrow solely for alteration of "privies" on the so-called "Manchester closet system," and the disposal of their contents. Three inspectors of the Local Government Board—Mr. BASIL CANE (general), Mr. SAMUEL J. SMITH, C.E. (engineering), and Mr. NETTEN RADCLIFFE (medical)—formed the Commission of Inquiry. It is to be inferred from Sir JOSEPH HERON'S observations, in submitting the case of the Corporation to the Commissioners, that the intrusion of representatives of the Local Government Board in an official capacity within the precincts, sacred to the Municipality, of the new Town Hall, Manchester, was not regarded locally with unqualified gratification. However, there were not wanting some elements of consolation even in the presence of this unavoidable desecration. The Commissioners would have the opportunity of contrasting the sort of accommodation made by the Corporation of Manchester for its officers as compared with the accommodation provided by the Imperial Government for its officers, sorely, we learn, to the disadvantage of the latter. Then the fact that three Commissioners had been detailed for the inquiry was a testimony to the grandeur of Manchester, of its Corporation, and of its "privies," which Sir JOSEPH did not fail to turn to account. Indeed, so impressed was Sir JOSEPH with this theme, or rather perhaps we should say, so much did it occupy his thoughts, probably unconsciously, that he claimed for Manchester, previous to the commencement of the conservancy works for which the loan was asked, a pre-eminence in filthiness of the most offensive sort, and of stench therefrom, which we have no doubt other municipalities will very willingly concede. It was this state of filth, in fact, especially when viewed with relation to the great importance of Manchester as a municipality, and the vast wealth of the town, which had constituted an inexpressible reproach to the Corporation and the people, and justified a charge of scandalous sanitary neglect against them. But, notwithstanding this charge, Manchester, much to the grief of tender sanitary consciences, persistently refused to accept water-sewerage as a panacea for the evils arising from its excessive filthiness. It did not matter that water-sewerage was the consummation of engineering and official knowledge on the subject. Manchester steadily maintained that the system was incompatible with the requirements of a great manufacturing town; that it was radically wrong in principle, aggravating in the highest degree the evils of town-sewage, which in their least development were sufficiently serious; that it was partial in its operation; and that its cost was disproportionate to the relief it afforded. It was pardonable for Sir JOSEPH HERON to indicate triumphantly the proof which present experience affords of each of these positions, and especially to note the Rivers' Pollution Act as the proof of the second. If Manchester had contented herself with urging these objections, she would scarcely have been absolved from the charge of neglect. But this, it appears, she has not done. Following the lead of Rochdale, and working in a parallel line, she has devised a substitute for and of more excellent nature, as she avers, than the water-closet, and further has developed a complete system of dealing with *all* the solid filth of the town. By this system she keeps all solid filth above ground. She removes it from the vicinity of houses twice a week, and hopes eventually to remove it daily, thus obviating nuisance; and she puts every sort of filth to useful and profitable purpose. There is not a particle of town's refuse, indeed, which she is not able to turn to good account, as valuable manure, capital cement or mortar, fuel, charcoal, road-stuff, or material for the manufacture of prussiate of potash and of copperas. The refuse which formerly had to be cast aside and piled up in vast noxious heaps ("tips") is now transformed by the energy of the Corporation into valuable commercial products. Of the 60,000 middensteads which a few years ago made Manchester one of the most offensive towns, 50,000 have been converted into the newer, inoffensive closets, and the remaining 10,000 will be converted in a year and a half. In two years from the present time, in fact, the whole of this vast system of conservancy will be in operation, and the Corporation then in a position to attack the question of the depuration of liquid sewage under circumstances favouring the solution of that question such as municipality never had before. It is for this newer system of conservancy, with reference to the solid filth, that the loan of £200,000 is asked. Sir JOSEPH HERON, in looking to the future of the system, both in its sanitary and its economical light, spoke most hopefully; and the fact that the Corporation is prepared to invest so large a sum in it shows that that body has full confidence in both aspects of the question.

We shall have but a short time to wait for the confirma-

tion or otherwise of the hopes entertained of the Manchester scheme of conservancy, as the gigantic experiment which the Corporation has been pursuing during the last ten years is now drawing rapidly to a close. We believe that the experiment has been carried out on too sound a basis for any risk of serious failure, and, so far as the sanitary element is concerned, it may be regarded as a most decided success. The real author of this Manchester system of conservancy—the individual whose skill planned it and wrought out and supervised the several details—is the medical officer of health of the city, Mr. JOHN LEIGH. Among the modern worthies of Lancashire, few will deserve greater honour than Mr. Alderman TAYLOR, of Rochdale, the deviser of the Rochdale system of town conservancy, and Mr. JOHN LEIGH, the deviser of the Manchester system.

THE death of JOHN NOLAN at Clerkenwell, and the terms of the verdict which was returned by the jury, have compelled the authorities at the Home Office to order an official inquiry into the circumstances attending it, and the President of the Royal College of Physicians has been appointed to undertake the investigation. This is so far satisfactory, but in addition a great alteration must be made in the system of medical attendance on those prisoners who are not confined in convict establishments. Under the recent Act the Government has closed many of the smaller prisons throughout the country; and so, from motives of economy, the prisoners in each county are congregated together in one or more large gaols. The number of inmates in these will necessarily be very large; and it will be quite impossible for any medical man who has outside work, such as a general practice entails, to properly perform the duties of surgeon to one of these prisons also. Most of them will supply ample work for anyone who devotes his whole time thereto. Besides examining and prescribing for such prisoners as are unwell, a large amount of skill and care must be given to the investigation of the numerous cases of malingering, lest, perchance, a man who is really ill be dismissed to his work instead of having proper medical attention. Moreover, among the duties of the medical officer is included the examination of every new inmate of the gaol, before the class of work which he will have to do is allotted to him; and much discretion is necessary to prevent an excessive task being fixed on the one hand, or too easy labour being given on the other. But the most onerous of his duties has to be discharged when he is required to step between the governor of the prison and the prisoner, and unhesitatingly forbid some punishment which the latter has perhaps richly merited for bad conduct, but may be too severe for his physical capacity. We cannot see how this can be fairly done by any medical man except he is resident in the prison. The ordinary medical attendant, however conscientiously he may perform his work, cannot be so familiar with the physical condition of the inmates of a prison as if his whole time were devoted to their care; and unless a complete knowledge of this sort is attained by the medical officer, cases of excessive punishment are sure to occur, and so cause needless scandal and throw doubts on the humanity of our prison *régime*. The Government, therefore, in taking upon itself the responsibility of managing county prisons, should give a proper pension to the medical officers now in charge, and institute a new service of resident surgeons, such as exists in connexion with the convict establishments. If this be not done, we do not hesitate to say that cases similar to that of NOLAN will inevitably occur now and again, and the blame must be bestowed on the system, and not on the medical officer. A resident surgeon is as essential for the proper working of a large prison as is the governor himself.

Annotations.

"Ne quid nimis."

ILLNESS OF H.R.H. PRINCESS ALICE.

ANXIETY has, during the last few days, been created by the grave illness of the Grand Duchess of Hesse, better known as the Princess Alice of England. The epidemic of diphtheria which has visited the ducal family and already carried off one victim, has extended to the Princess. The physicians in attendance suggest that, as the sufferers have up to this point been members of the family, and no case has occurred in the household, the malady has probably been communicated by direct contact in kissing. We offer no opinion as to the hypothesis beyond the expression of a hope that no theory as to the manner of infection may be permitted to divert attention from the far more urgent question of *origin*. It is with peculiar satisfaction we learn that an improvement has taken place in the condition of her Royal Highness. The fever abates, and the secondary affection of the glands is lessened in severity. Sir William Jenner left England for Darmstadt on Tuesday night, and the presence of this experienced and able physician at the bedside will doubtless be welcomed by her Royal Highness's immediate attendants, while it cannot fail to inspire new confidence in this country, where the keenest interest and sympathy prevail among all classes.

ARMY MEDICAL DEPARTMENT.

DR. LYON PLAYFAIR has given notice of his intention to ask "Whether it is true that it is proposed to discontinue open competition for Army Medical Officers, and to substitute nomination; and, if so, whether the Government will lay the report of the Committee, and the reply thereto of the Board of Examiners, on the table of the House before any action is taken by Royal Warrant on the subject." This question raises several important points connected with the service. If we mistake not, the number of candidates for admission into the Medical Department has never, during the last five years, been equal to the number of vacancies to be filled up. The examination, therefore, has not been competitive, but merely a pass. When the candidates increase to such an extent as to exceed the vacancies, the question as to the mode of selection may be raised, but until then it is a mere farce to talk of open competition. Another point to be considered is the unpopularity of this entrant examination among the medical students. After having obtained the double qualification and been entered on the Medical Register as duly qualified to practise their profession in any part of Her Majesty's dominions, they very naturally, as it appears to us, object to being obliged to work up for another examination to prove themselves qualified to practise in the army. We know that this has a deterrent effect in keeping back many eligible candidates. If Dr. Lyon Playfair does not consider that the examinations of the various examining bodies are as yet sufficiently stringent, we would recommend him to sup-

port in the House a Bill for the "one portal" system of admission into the profession.

But the honourable member's question raises another point. It brings out very clearly that the opposition to the proposed discontinuance of an entrant examination arises with the examiners themselves. Now, we are not surprised at their objecting to this change, for, highly as we esteem them, we could hardly expect a body of zealous men to give up without a struggle what may appear to be bound up with the interests of their order. This very circumstance must cause their opinion to be taken with considerable reserve. The questions to be considered by the War Minister before coming to a decision appear to be—Are these special examiners likely to be found so much more discriminating than those by whom the double qualification has, in each case, been already granted as to justify a considerable annual expenditure for their services? Is there any advantage to the service to be gained by an entrant examination, especially when it is merely a pass, which would justify such expenditure? Are the measures which he proposes to adopt for the reorganisation of the Department of such a nature as to be likely to make the service so popular that it will be a matter of little consequence to retain an examination which deters a good many candidates from coming forward?

If we understand the report of Lord Cranbrook's Committee aright, it is not intended to interfere with the special training given to probationers at Netley, and we feel very confident that with such training, and an examination at the end of the course to test the work done there, the candidates admitted on the faith of their qualifications as shown by their degrees, diplomas, and registration, will not be found in any respect inferior to those who have undergone the torture of the additional quasi-competitive examination.

THE THAMES POLLUTION DIFFICULTY.

THE Woolwich Local Board of Health, being very much "exercised" since the *Princess Alice* catastrophe as to the unsatisfactory state of the Thames water, have recently ordered their surveyor, Mr. H. O. Thomas, C.E., and Mr. Wigner, their analyst, to draw up a report on the subject, derived chiefly from the results of analyses made of the water at various times, and taken from various places. The result is a somewhat elaborate report, in which four definite questions are propounded and replied to by the gentlemen above-named. To the question "Is the river contaminated with sewage?" an unqualified reply in the affirmative is given. Question 2 runs: "If so, is the sewage contamination so great as to be injurious to Woolwich?" This is a somewhat loosely-worded question, and as such is cautiously answered. But Mr. Wigner replies that, assuming the state of the river on the 14th October to represent the average state of the stream, "unquestionably the effluvium given off from the sewage-contaminated water *is* sufficiently great to be injurious to health." Question 3 is thus worded: "Did the condition of the river on September 3rd (the date of the accident) increase the loss of life?" Here again, and very naturally, a cautious reply is given, which leaves the matter very much as it was before the report was published. "Is the contamination caused by the sewage of the metropolitan outfalls?" This is the last, and, to the Woolwich Local Board of Health, the really important question, because if the authorities at Spring-gardens can be saddled with "all and every" of the nuisance complained of, the Woolwich Board is henceforth relieved from any pains and penalties, their own somewhat large and very odoriferous outfall on the north side of the river notwithstanding. In point of fact, it has, within the last few weeks, been pretty clearly made out that though the Metropolitan Board of Works may be the chief, they are not the only offenders in that matter. Our contemporary, the *Pall Mall Gazette*, pointed out on Tuesday last that there were three or four other interests, and that the only independent body who could deal with the subject was the Port Sanitary Authority. We entirely agree with this opinion, and trust that the Corporation of London will with their wonted energy lay bare the root of the evil, and instruct their officers to endeavour to indicate the remedy, that it may be published and discussed in the interests of all concerned.

ACCIDENTS IN SPORT.

THE first feeling produced by the recent melancholy accidents to sportsmen, with guns, and in the hunting field, must obviously be one of regret that valuable lives should be sacrificed in the seeming pursuit of pleasure. On reflection it will, however, appear that something more excellent and commendable than the mere gratification of a passion for amusement is the object which the true sportsman proposes to himself, and which, in point of fact, he attains. It is the pursuit of health and vigour of body and spirit in which the participator of field sports engages; and, coming to still closer quarters with the subject, we find that the discount of disadvantages, in the shape of serious accidents, to which the enterprise is liable, reaches only a very small proportion to the total amount of exercise taken, and the number of persons who share its benefits. This must not be forgotten. Setting aside the indirect services rendered to the cause of good citizenship by the training afforded by exercise over the "stubble" and the "timber," there is the bracing health-giving activity of purpose to which the youth and manhood of the country are lured by sport, and in its enjoyment the risks encountered are either comparatively small or they are avoided with a success which it is worth a considerable sacrifice to purchase. If the number of miles walked or ridden by those who shoot and hunt in any season were computed, and the total of accidents with the percentage of mortality incurred estimated, we venture to predict that the proportion would be almost insignificant, although the occurrences which now and then attract attention—generally as is the wont in groups—are deplorable. It would be a misfortune if any spirit of timidity began to pervade society in regard to sport, and nothing will so much conduce to a right judgment as the full recognition of those healthful advantages which every legitimate form of exercise affords, and an accurate estimate of the proportionately small risk of accident which accrues.

THE CASE OF THE PRISONER NOLAN.

THE Home Secretary has acted wisely in appointing the President of the Royal College of Physicians, in conjunction with Dr. Guy and another gentleman whom they should agree on, to visit the House of Correction at Clerkenwell, and make the very strictest inquiry into the circumstances attending the death of John Nolan, and into the management and discipline of the prison generally. At the time the inquest was being held, we addressed a request on this very point to Mr. Cross, asking permission to send two Fellows of the Royal College of Physicians to visit the prison and inquire into the circumstances of the case. It is gratifying to find that our suggestion has been acted on. In the hands of the President of the Royal College and Dr. Guy, the inquiry is sure to be carried out in a most efficient and searching manner, and the public may rest assured that they will perform their duties without respect of persons. With regard to the gentleman to be associated with them, we hope to learn that some physician distinguished for his physiological knowledge has been selected, so that the best professional opinion on prison diet

in relation to prison labour, &c., may be obtained. The names that occur to us at the moment are those of Professor De Chaumont, Dr. Pye-Smith, and Dr. Pavy. In another column we have discussed at length the direction the inquiry ought to take.

THE SOCIETY OF APOTHECARIES versus SHEPPERLEY.

THE Society of Apothecaries would have acted discreetly if they had taken our advice and abandoned the case against the chemist Shepperley. It was clear on the face of the evidence that the real question at issue could not be fairly raised and properly adjudicated on the grounds set forth. The Lord Chief Baron has followed the lead of the Lord Chief Justice, who holds that there is no prejudice in the sale of an adulterated article if the purchaser is not injured—so that if a painted sparrow were sold for a canary there could be no offence if the purchaser required it for his own use, and happened to suffer from headaches likely to be aggravated by the noise of a singing bird. Acting on this principle, the Court of Exchequer has constituted itself a court of diagnosis, and determined that no wrong was done by Shepperley because there was nothing the matter with the supposititious patient, and therefore no prescription. The logical absurdity of the position taken is boundless. It is henceforth no poisoning to give poison if the victim is not injured. Success in wrong-doing is alone to bring punishment, and an attempted offence is not criminal! Meanwhile, the question whether chemists may prescribe remains undecided, and we trust when next it is submitted to a Court, the issue will be a clear and fair one, straightly put.

IS YELLOW FEVER INFECTIOUS?

THE notes recently published in the columns of THE LANCET on this disease have resulted in the forwarding of numerous contributions on the subject, most of them more or less noteworthy. Dr. A. G. McCalty contributes an apparently indubitable proof of the infectious nature of the disease. When practising at Montego Bay, Jamaica, in 1865, the corpse of a sailor, who had died during a short voyage from Kingston, was put on shore, buried, and afterwards exhumed, yellow fever being stated at the inquest as the cause of death. The medical man who made the post-mortem became ill in a few days, and died at the house of a friend who nursed him. The friend was attacked, and after a long and dangerous illness was removed to the mountains for change of air, when in a very short time the eldest child of the family with whom he was staying, and ultimately all its members, became ill, and all died except the mother and one child. A surgeon who attended them in Dr. McCalty's absence conveyed the infection to his wife, who died, as well as Dr. McCalty's brother, who was acting at the time as his assistant. Another brother having attended the funeral, and slept in the room where the last fatal case occurred, became ill, and was buried five days afterwards. A judge of the district, who called at the house of the last victim, also met with his death from the same disease. We prefer to stop here, though the writer refers to several other cases that occurred about the same time on a Russian vessel lying in the bay. He says: "By some unexplained means the fever was conveyed on board, every man took the disease, and all but the captain and two others died." Even if we omitted these cases that occurred afloat, the link of evidence here goes very far indeed to strengthen the infection theory, and as such should be carefully taken note of by all who are elaborating the history of the disease.

Dr. McCalty, who appears to have had a large experience of yellow fever, says, as to therapeutics, that carbolic acid administered externally allays the sense of burning heat so invariably found as a symptom, and, given internally, suppresses vomiting and speedily enables the patient to take nourishment. He records two varieties of the disease, one of which is not (according to his opinion) genuine yellow fever, but has many parallel symptoms, including black vomit and albuminous urine, which latter is common, however, in all varieties of West Indian fevers. This spurious variety is, according to Dr. McCalty, not infectious, and is benefited very decidedly by quinine. In the true yellow fever, on the contrary, quinine does harm. The burning sensation in genuine yellow fever is always much complained of, the temperature is exceedingly high, and in the vomited matter may be found by the microscope fungoid bodies of an ovoid shape, strung together. The writer has drawings of these, and will be glad to exhibit them to anyone specially interested in the subject. These bodies are described as about ten times the diameter of a blood-globule, with peculiar offshoots placed at right angles to each other.

FIFTY-TWO SUCCESSFUL CASES OF LITHOTOMY.

DR. ALAN P. SMITH, of the University of Maryland, has recently published "A Report of Fifty-two Successful Cases of Lithotomy," performed by himself. These are all the cases in which he has operated, and have not been selected. Twenty-nine of the patients were under ten years of age, eleven between ten and twenty, five between twenty and forty, and seven between forty and seventy-one. The youngest, twenty-one months, and the oldest, seventy-one years, were negroes. The stones varied in composition. In all but the first six cases Dr. Smith operated with a special "lithotome" of his father's. This consists of an ordinary grooved staff, to the shaft of which is fixed just below the handle a grooved cutting director turning on a hinge, and falling, when pressed down, into the proximal end of the groove of the staff. The staff is made hollow, and working in the tube is a sliding "index." The instrument is introduced into the bladder in the usual way, with the director projecting from the shaft, and the index drawn up. Then the director is pressed "home," and the cutting edge severs the perineal tissues and enters the groove in the staff; a beaked knife is then passed along the director into the groove, where "it becomes engaged in the cup-shaped extremity of the indicator, and as the hinge is pushed forward in the groove, the indicator above the handle must descend. If, on the contrary, the hinge leaves the groove of the staff, the indicator ceases to move, and the surgeon is at once warned." Thus Dr. Smith overcomes what he considers the only difficulties in the cutting part of the operation, the striking the staff and the keeping in the groove, and he attributes most, if not all, of his successes to the use of this instrument. No drain for the urine is used after the operation, but if necessary a gum catheter is passed through the wound. Dr. Smith thinks it of importance not to operate when the barometer is low. The report certainly has one merit—brevity.

COLLEGIATE PRIZES.

THE Jacksonian Prize of the Royal College of Surgeons for the present year is "Glaucoma: its Causes, Symptoms, Pathology, and Treatment." The essays must be sent in not later than four o'clock on Tuesday, the 31st inst. The subject of this prize for the ensuing year is "The Disease of the Lymphatic System known as Hodgkin's Disease or Lymphadenoma." The money value is between £11 and £12. The subject for the Collegiate Triennial prize to be awarded next year is "The Anatomy and Physiology of the Third, Fourth, and Sixth Nerves, as illustrated by observa-

tions and experiments in health, and by reference to the effects of injury and disease." This prize consists of the John Hunter medal, executed in gold, of the value of fifty guineas, or, at the option of the successful author of the dissertation, of the said medal executed in bronze, with an honorarium of £50. It is surprising that so few candidates compete for these honourable distinctions, as it appears by the College Calendar that no award for the latter has been made for twenty years. Since its establishment in 1820, when it was carried off by the late Mr. Swan, there have been only six successful competitors. For the Jacksonian Prize there was no award last year.

THE HEALTH OF PADDINGTON.

DR. JAMES STEVENSON, medical officer of health for this metropolitan district, has lately presented his third Annual Report. During the year 1877 it appears that 1886 deaths were registered in the parish, five of which occurred in the Lock, and 224 in St. Mary's Hospital, but as none of those who died in the former, and forty-nine only of those who died in the latter were parishioners, 1706 was really the corrected total of deaths. A large proportion of the Report is occupied with notes on small-pox, and is devoted to pointing out that the inefficiency of vaccination was a very prominent and proximate cause of the great severity of the epidemic. A total of sixty-four cases were treated in hospital from this district during the year, fourteen of these having been removed from canal boats—a very noteworthy circumstance in connexion with the propagation of disease by water conveyance. The author of the report quotes *in extenso* a letter that he wrote to *The Times* in the spring of last year, which sums up very completely the faults of the present system of vaccination, and the remedial measures required as regards sailors, domestic servants, and others who have special opportunities of conveying the disease from one place to another. Dr. Stevenson thinks (1) that the time allowed by law for the vaccination of infants might with advantage be reduced; (2) that vaccination with procured lymph should be discouraged, and that only "arm to arm" vaccination should be recognised (emergencies excepted); and (3) that the performance of vaccination should be restricted to public vaccinators, appointed, paid, and systematically supervised by the State.

Hospital accommodation, here as elsewhere, has again engaged the attention of the authority, but beyond remitting the question to a conference of delegates from the local boards, nothing has been done. The work of disinfection appears to have been very efficiently performed, no infectious disease having reappeared in any premises that have been operated upon by the Board's inspectors.

THE ROYAL NAVAL SCHOOL-SHIP "BRITANNIA."

IT is unsatisfactory to become conscious that the model school-ship to which port sanitary authorities are glad to point as an example to be followed in the fitting up of similar institutions, is, on account of its situation or for some other reason, by no means a healthy place of habitation, although it has been chosen as a residence for two of the Royal princes. A correspondent writing to the *United Service Gazette*, speaks of "pestiferous exhalations" arising from "acres of stinking mud" in the immediate vicinity of the ship, of thick fogs and unhealthy dews, &c.; and the writer concludes by insisting that salt water, not "a quasi ditch," is the proper place for the ship and her cadets, the latter being only kept in a comparatively mediocre state of health by "the very sumptuous diet" with which they are supplied. Taking these several somewhat superlative sentences *cum grano salis*, we think it probable that the author of this letter is perhaps right — as Mr. Gladstone would say—"in the main." Everyone familiar with the beautiful spot where the *Britannia* and her consort the *Hindostan* are moored, knows that these ships are enclosed on both sides of the stream by high wooded banks that must of course tend to keep in the moisture, and in winter to keep out much of the sun. The ships cannot swing at their moorings, and, though close to the sea, the fact that Kingswear on one side and Dartmouth on the other discharge their sewage into the stream cannot, of course, improve the condition of the water in which the ships float. We do not think that, except on the score of ready communication, much difficulty would arise in finding, off the coast—i. e., in veritable salt water,—a mooring-place sufficiently sheltered to serve the purpose, and one, too, where the ships could swing readily—a very important point with such floating establishments, and too little thought of. But, as the observations of our contemporary, *apropos* of the letter, show, the question of ready access is but one of the many difficulties that beset the satisfactory administration of school-ships, and, as we have remarked before, it is a question of grave doubt whether this, united with other obstacles, does not tend to more than counterbalance the advantages derivable from being on the (so called) element that will be the boys' future home. Captain Burney, R.N., the very energetic superintendent of the Royal Naval Schools connected with Greenwich Hospital, maintains that the life on board a school-ship is no sort of aid in the education of a sailor. We are very much disposed to agree with him, and should certainly, as regards the sanitary aspects of the question, side with him most emphatically.

SMALL-POX IN LONDON.

ONLY 4 deaths from small-pox were registered in London during the first seven days of December, against 16, 7, and 8 in the three preceding weeks; and no fatal case of this disease was recorded in any of the nineteen large provincial towns dealt with in the Registrar-General's weekly return, which contain an aggregate population somewhat larger than that of London. Unfortunately the statistics of the Metropolitan Small-pox Hospitals distinctly foreshadow an imminent increase in the fatal cases of small-pox in London. The number of small-pox patients in the Metropolitan Asylum Hospitals, which in the seven preceding weeks had steadily increased from 91 to 160, further rose to 196 during the first week of December, in which 61 new cases were admitted to these hospitals, against but 30 and 39 in the two preceding weeks. The admissions of small-pox cases to these hospitals last week exceeded those in any previous week since the end of July last. It is worthy of note that of 51 deaths from small-pox recorded in London during the seven weeks ending 7th inst., 42 were of residents of South London, including 17 of Southwark, 9 of Newington, 8 of Greenwich and Deptford, 6 of Camberwell, and 2 of Lambeth.

PALATIAL CESSPOOLS.

THERE would seem to be some close connexion between the growth of our palaces and the existence of cesspools within them. Whether there be a structural necessity for cesspools being planted at the foundations of our most important buildings, and whether architects are under the impression that these receptacles in some way contribute to the development of the building, we are not prepared to say. But the suspicion is forced upon one that the connexion must be governed by some more recondite notion than is commonly believed to be the case, when the question is viewed in relation to former discoveries at Windsor Castle, recent discoveries at Marlborough House, and now the present discovery at the Palace of Westminster. It appears that there has just been brought to light in one of the courts

of this palace, contiguous to the private entrance for members of the House of Commons, a formidable group of offensive cesspools. The existence of these cesspools does not seem to have been shown on any plan, or to have been known to any person who ought to have known. An "unpleasant effluvium," as it was euphemistically expressed—in other words a revolting stink—had for some time been experienced at the spot where the cesspools existed, but the combined wisdom of the officers of the palace did not suffice for the discovery of the source of the stench until the crowns of the cesspools broke in under the current of members' carriages. The court where the cesspools were discovered is one of the courts, we believe, supplying air to the interior of the House of Commons and its corridors. The incident of the discovery ought to sharpen members' apprehensions in sanitary matters.

THE HISTOLOGICAL CHANGES OCCURRING IN TRAUMATIC CORTICAL ENCEPHALITIS.

DR. SMIGRADSKI records, in an inaugural dissertation, the results of experiments he performed on dogs, and in which after trephining he removed a portion of the cortical substance of the brain. He found that after complete healing of the external wound, no cicatrisation of the cerebral substance occurred until after the lapse of nine months. He is hence disposed to attribute the healing of wounds of the cortex of the brain to the formation of cicatrices resulting from the development of connective tissue, which is itself developed in part from white blood-corpuscles which have escaped from the vessels, and in part from the vascular endothelium. Some of the migrated blood-corpuscles degenerate into large granular cells and spheroids, which lie in contact with the outer wall of the vessels. The greatest accumulation of them is found in those parts where there has been the most violent inflammatory reaction. Part of these break down, and undergo resorption; another portion gradually lose their spherical form, become oval, fusiform, and ultimately present the appearance of small fibrils, which unite to form wavy fasciculi, and then constitute the cicatrix. The other elements of the cortical substance play no part in the formation of the cicatrix.

LUNACY IN AUSTRALIA.

IT appears from the report of the Inspector of Lunatic Asylums that on Dec. 31st last the number of registered lunatics in the colony of Victoria (Australia) was 2747. As the estimated population of the colony on that day was 860,787, the registered lunatics were in the proportion of 3·19 per 1000 of the population. At the same date the proportion of the population of England and Wales returned as insane did not exceed 2·76 per 1000. Thus registered lunacy in Victoria showed an excess of nearly a sixth, or 16 per cent. compared with the reported proportion of English lunacy. When, moreover, we consider that in Victoria the number included only registered, and, in point of fact, certified, lunatics, while in England the number includes very many paupers in workhouses suffering only from senile imbecility and dementia, who have never been scientifically certified as insane, it is fair to assume that the excess in the proportion of lunacy in Victoria is rather under- than over-stated. The 2747 registered lunatics in Victoria included 1588 males and 1159 females; the sex proportion of the lunatics to the population was 3·39 per 1000 among males, and 2·95 among females, while the English proportions were 2·56 and 2·94 per 1000 respectively. Thus in Victoria the proportion is higher among males than among females, while in England the reverse is the case. The proportion of females in England is probably, however, more affected than that of males by the inclusion of the uncertificated paupers classed as insane in workhouse establishments. It will be seen that the entire apparent excess of lunacy in Victoria occurs in the male population, the female proportion in Victoria and England being almost identical. The mortality statistics of the Victoria lunatics in 1877 were more favourable than those for the certified insane in England and Wales for the same year. The proportion of deaths to average numbers resident was only 7·75 per 1000 in Victoria, while it was 9·90 in England. A comparison of the mortality statistics for previous years is still more favourable to the Australian colony; a result which may be attributed to the superior physical health of the general adult population of Victoria compared with that of the average English pauper population that supplies so large a proportion of the inmates of our lunatic asylums. The Victorian report shows that the proportion of cases "recovered and relieved" to admissions during 1877 was equal to 46 per cent.; while the stated recoveries in the English asylums did not exceed 30 per cent. This comparison is, however, of doubtful value, the meaning of "recovery" being susceptible of a very elastic definition. Although the figures representing the amount of lunacy in England and Wales are unsatisfactory for want of uniform certification of all those classed as insane, there seems little reason to doubt that the proportion of lunacy in the colony of Victoria considerably exceeds that in the mother country.

THE ROMAN CAMPAGNA.

IN connexion with the Bill now under discussion in the Italian Chamber for the reclamation of the Roman Campagna, Dr. Guido Baccelli, Professor of Clinical Medicine at the Sapienza, has drawn up a report containing many observations and suggestions which are well worthy of the attention of the physician and the sanitary reformer. Reducing the area of reclaimable soil to little more than five chilometers beyond the already cultivated margin round the city, Professor Baccelli is convinced that the undertaking is of such magnitude that it can be completed only by a series of gradually concentric zones. As to the malaria he says: "It is autochthonous; it may be trodden out; it does not diffuse itself to great distances from its source; it does not rise to any great altitude; and therefore the work of reclamation should be concentrated by means of zones limited in radius, and near the city; the more pestiferous tracts, when they lie in the direction of the most usually prevalent winds, should be fenced with trees; but large sums should not be expended in remoter works, for the purpose of combating an imaginary enemy. It is always possible, even in the most degenerate spots, for the hand of man to reclaim zone after zone of soil, till a habitable oasis has been conquered from the pestiferous territory." A process of gradually rectifying the sanitary frontier, so to speak, is what Professor Baccelli recommends, and when the comparatively rude efforts of the Trappist brotherhood of the Tre Fontane have already proved the soundness of the system, what may we not expect when the physician, the sanitarian, and the agriculturist have combined for the same end?

A BIRMINGHAM INQUEST.

ON Monday last an inquest, which calls for some explanation, was held in the Birmingham Public Office. On the 4th instant a man was found in the street in an unconscious state; he was at once taken to the Queen's Hospital, but on arriving there life was extinct. Mr. Jordan Lloyd, house-surgeon, was the medical witness. He stated "that he was unable to ascertain the cause of death without making a post-mortem examination." The jury, however, returned a verdict of "Death from natural causes." If the report be accurate, the proceedings give faint hope of the people of Birmingham enjoying the protection which the coroner's

court is supposed to give. Without a proper examination no expert can tell the cause of death when a man is found insensible in the public street, and dies before being seen by a medical practitioner. The cause of death may have been accidental, suicidal, or murderous. Which of these is what the public has a right to know, and what can only be revealed by post-mortem examination.

THE PROFESSORSHIP OF HYGIENE AT KING'S COLLEGE.

THIS chair is now vacant by the resignation of Dr. Guy, and we understand that it is contemplated by the Council of the College to appoint Dr. Charles Kelly, the medical officer of health for West Sussex, as his successor. We congratulate the authorities on making such a wise selection and on re-engaging such a distinguished student of their college. Dr. Kelly, who was formerly an assistant-physician at King's College Hospital, is well known as an able teacher and a thoroughly good sanitarian. In his hands the subject of hygiene will assume its proper position in the medical curriculum, and we hear that it is already arranged for him to give a course of twelve lectures and demonstrations to advanced students immediately after the Christmas vacation.

THE ORGANISATION OF THROMBUS.

THE results of a series of investigations undertaken upon a large number of animals have recently been published by P. Baumgarten. His method of proceeding, as given in the *Centralblatt für Chirurgie*, was to isolate a considerable portion of the vessel, and to surround it completely with blunt hooks. Two threads were then passed round the vessel at a distance of about an inch, the peripheric one being first tied in the case of the artery, the central in the case of the vein. To the wall of the part included between the ligatures a little cinnabar suspended in a 2 per cent. solution of carbolic acid was applied. The cutaneous wound was sutured with carbolised silk. The animals were killed at various intervals after the operation, and careful macroscopic and microscopic observations made. The conclusions at which he arrived were:—The so-called organisation of a thrombus consequent on ligature is due to two essentially different processes. First, to a growth of the endothelium of the vessel; and, secondly, to an inflammatory outgrowth of the vascular wall and of the adjoining tissue, which penetrates into the cavity of the vessel from the point of ligature and from lateral fissures, and ultimately through and from the uninjured wall of the vessel itself. It is to the development of bloodvessels in this last material alone that Baumgarten attributes the organisation or vascularisation of the thrombus.

THE MEDICAL STAFF OF THE RUSSIAN ARMY.

THE Russian *Medical Gazette* states that in 1876 the strength of the medical staff of the Russian army was 2300. In the course of that year 120 medical men were added to the staff; in the course of the next year (1877) the additions were 900; and in the following year (1878) 750. The maximum number of medical men attached to the army during the last war was 4000.

THE ACADEMY OF SCIENCES.

THE committee appointed to arrange the candidates for the membership of the Academy vacant by the death of Bernard, placed them in the following order:—M. Gubler, M. Charcot, M. Marey, M. P. Bert, M. Arm. Moreau. The order was, however, considerably altered by the voting, which placed M. Marey first with forty votes, M. Bert second with fifteen votes, M. Charcot third with three votes, and M. Gubler last with one vote.

MR. EDISON authorises the statement, as the *Daily News* learns by special telegram from its New York Correspondent, that his electric light is produced by the incandescence of an alloy of platinum and iridium. The conductor is of peculiar form and arrangement, and a much weaker current is made to generate a given light. A simple adjustable apparatus attached to each lamp regulates the amount of electricity it shall draw from the main current.

A MEETING of the House Committee and Medical and Surgical Staffs was held at St. Thomas's Hospital on Wednesday, Dec. 11th. After some discussion, a sub-committee of the medical staff was appointed to deliberate on the scheme recently proposed to the governors by the Treasurer. The sub-committee will assemble on Wednesday, the 18th instant.

A FEW friends waited upon Dr. J. B. Macleod on Nov. 29th, and presented him with a handsome drawing-room timepiece and a microscope. Dr. Macleod leaves Galston to practise in Dundee, and the gifts were a token of the esteem in which he has been held during fourteen years of successful practice in Galston.

DR. MILLINGEN, the surgeon who attended Lord Byron in his last illness, died at Constantinople on the 1st inst. Dr. Millingen had written an account of his intercourse with Byron, which he intended to publish, but all his papers were burnt in the great fire at Pera in 1870, and he never rewrote his reminiscences.

HER MAJESTY, on the advice of the Lords of the Privy Council, has reappointed Professor Turner to be the representative of the Universities of Edinburgh and Aberdeen in the General Medical Council.

MR. HEPWORTH DIXON is of opinion that the climate of Cyprus is admirable. On the other hand, Sir Garnet Wolseley is, it is stated, about to return to England to "recruit his health"!

THE bill of indictment against Lady Gooch has been thrown out by the grand jury.

THE REVISION OF THE MEDICAL COUNCIL.

III.

THE WORK ACCOMPLISHED IN TWENTY YEARS.

IT is exactly twenty years since the creation of the Medical Council by the Medical Act of 1858. It is not premature, therefore, to take stock of its work, and to ask how far it goes to justify the existence and the constitution of the Council. The Council has generally met once a year; sometimes twice; this year it has met three times. We shall soon see something of the cost of the meetings of the Medical Council. Meantime we have to consider the work it has accomplished. The Council was created to superintend registration; to supervise medical education; to judge of infamous conduct in a professional respect on the part of registered persons, and, if the Council should see fit, to direct the erasure of their names from the Register; to publish accounts annually to be laid before Parliament in March; and to publish a Pharmacopœia, to be called a "British Pharmacopœia." Finally, we may say the Council was created generally to facilitate to the public the act of distinguishing between qualified and unqualified persons. Such at least was the prime object of the Act which the Council was to administer, judging from the preamble of the Act itself. There is another way in which we can arrive

at the object of the promoters of a measure—viz., by studying the name of the principal body which they create for carrying out their wishes. In this case the body was the Medical Council, and they devoted a clause of the Act to giving it a name.

"A Council, which shall be styled 'The General Council of Medical Education and Registration of the United Kingdom,' hereinafter referred to as the General Council, shall be established."

The Council was to be, above all things, the Council of Medical Education and Registration. With such light upon the objects of the framers of the Medical Act we are in a position to judge of the faithfulness of the Medical Council to the purposes for which it was created, and may proceed to state what it has accomplished.

1. It has published a Register annually.

2. It has published a British Pharmacopœia.

3. It has dealt with, and, after a fashion, settled, the question of preliminary education.

4. It has defined with sharpness the time before which medical education shall not be considered to have commenced.

5. It has erased many names from the Register in virtue of its judicial functions; and, in one case at least, after doing so, it has shown itself capable of mercy as well as judgment, by restoring the name.

6. It has organised repeated Visitations of the Examining Boards of the different parts of the kingdom. The visitors at first were members of the General Council, generally speaking members for that division of the kingdom which they visited; but latterly the visitors have been members of the Council connected with other divisions of the kingdom, associated with gentlemen unconnected with the Council.

Under these various heads much work has been done, and even good work. Our space forbids us to go into detail. The Register has been rather loosely kept, and has been shown from time to time to contain numerous errors. The Pharmacopœia, in the first instance, was very imperfect, but is now allowed to be a very fairly good one, and it has superseded the more local pharmacopœias. This is a great matter. The subject of preliminary education has been a favourite one with the Council. The great points which the Council has pressed are—First, that an examination in general education shall have been passed before a student commences his strictly medical education, or is registered as a medical student. Secondly, that the examination in general education should be left entirely to the examining boards of national educational bodies recognised by the Medical Council. The first rule is acted on now, we believe, by all the examining bodies in the kingdom. The second point has been only partially conceded by the bodies, either from want of disposition or of legal power to delegate to independent educational bodies the examination in preliminary subjects. It is probable that the tests of preliminary education are now more stringent than they were twenty years ago; but it was made quite clear, in the discussions of the Council last year, that they are still unsatisfactory, and allow many to pass who are not fit for medical studies or likely to do credit to the profession. We have no fault to find with the way in which the Council has exercised its judicial functions. The visitations conducted under the auspices of the Council have resulted in many improvements in the examinations suggested by the visitors; amongst others, the making of examinations more practical by the introduction of dissections, cases, bandaging, &c. &c.

It must now be asked, If the Council has done all this, what has it left undone? Is not the above category of accomplished work enough to show for twenty years of time and over £120,000 of money? This is not only a fair, but an urgent question. The admissions we have made as to the Council's work entitle us to be fully credited when we set forth its shortcomings. They are conspicuously two:—1. *It has never spent a farthing of the money it has received from the profession in applying the penal clauses of the Act.* 2. *It has postponed and trifled with the great question of Medical Education.*

1. The Council has always declined to initiate any proceedings against those persons who assumed medical titles and misled the public by professing to be registered. We are not aware that there is anything in the Act prohibiting the Council from taking such proceedings. If there is, and the Council had had any disposition to vindicate the dignity of registrable titles, it could easily have got the power in one of the seven or eight amending Acts which have been passed since the Act of 1858. It has never sought such powers, and has succeeded in conveying to registered men the impression of a want of sympathy with them in contending with imposture.

2. But undoubtedly the great charge to be brought against the Medical Council is this—that it has postponed and trifled with the great question of medical education. And upon this ground alone it can be convicted of being unfit for its principal function, and unworthy of its principal title—*the Council of Medical Education.* This has always been our view of the chief ground for asking of the Government a change in the constitution of the Council. It is almost enough in the way of substantiating this charge to say that only last year did the Council come seriously to express its views on this great subject—that is, nineteen years after it began its work. And even then, if anyone will read the reports in our columns, he will see that the great questions as to the defects and faults in our system of medical education were either most superficially treated, or altogether ignored. The Council itself shall be our principal witness of its own shortcomings as a Council of Medical Education. In 1859 a Committee of the Council appointed to report on questions of education divided the subject into—(1) The Preliminary; (2) the Professional; and (3) the conditions on which higher qualifications should be granted; and said—and the report was afterwards adopted by the Council and signed by Sir Benjamin Brodie,—"The Committee have determined to postpone the consideration of the second and third heads.....The Council expect that by their next meeting they will be in a position to offer their views on these questions, and on others of corresponding importance." Nearly twenty years have elapsed, and the Council has not yet found it convenient to offer its views on medical education. The consequence is that there are scarcely two boards which exact the same curriculum; that the courses of medical study and methods of teaching are very much the same as they were twenty years since; and that medical education is so ineffective that the rejections at examinations have increased from 12·4 per cent. in 1861 to 23·2 per cent. in 1875. Last year, when the Council did just touch the fringe of this great subject of medical education, it passed a recommendation, on Mr. Lister's proposal, that no student should be required to attend more than one course of lectures on the same subject. But, showing the uselessness of a Council that cannot compel the adoption of its recommendations, the regulations of the examining bodies this year show an entire disregard of the recommendation of the Council. We cannot adduce a stronger proof of the inefficiency of the Council than that it did not begin seriously to express its views on medical education till 1877; that it did so then only in the most fragmentary way; and that its fragmentary suggestions then made have been entirely inoperative. In the interest of medical education a change in the constitution of the Medical Council must be demanded.

PRISON MANAGEMENT.

THE whole tendency of the Prison Act of 1877, which came into operation on April 1st last, has been undoubtedly towards greater economy of administration and increased severity toward the prisoner. At the same time the powers of the Visiting Justices, whose duty it was to control undue severity and see that strict justice only was meted to the inmates, have, if the evidence given by Sir William H. Wyatt, Chairman of the Visiting Justices Committee, at the recent inquest at the Clerkenwell House of Correction, is correctly reported, been greatly curtailed, and consequently the Committee is no longer "the slightest protection to the prisoner." Whilst the extraordinary, we might almost say sensational, evidence adduced at the inquest just alluded to, is still fresh in our minds, the first report of the Commissioners of Prisons under the new Act comes opportunely to enable us to form an opinion for ourselves as to the merits and demerits of the present system.

And first as regards the plank system, about which so much has been recently said. The use of the plank instead of mattress is certainly no innovation, the Act of 1865 having authorised its use for convicted prisoners "during such time as may be determined by the rules of the prison," but the credit of formulating the method of applying the punishment belongs to the present Act, and the ingenuity displayed in making it as formidable as possible is worthy the professed torturers of the Middle Ages. Thus, for example, "a prisoner in the first stage will be employed ten hours daily in strict separation on first-class hard labour, of which six to eight hours will be on crank, treadwheel, or work of a similar nature, and sleep on a plank bed without a mattress. A prisoner in the second stage will be employed as in the first stage until he has completed one month of imprisonment, and afterwards on hard labour of the second class, and sleep on a plank bed without a mattress *two nights weekly, and have a mattress on the other nights*"! We are not prepared to express a sweeping condemnation of the system of plank beds; no doubt to a large number of our criminals they are no great hardship; but we venture to think that they should not be enforced universally, and if employed should form part of the sentence, and be left to the discretion of the judge or magistrate, subject only to a subsequent reduction of the penalty on medical grounds and advice. But whilst admitting that they may be used in the restricted manner we have suggested, we would emphatically denounce the physiological error of constantly altering a prisoner's sleeping arrangements, especially when engaged in hard physical labour. We consider it not only an act of unnecessary tyranny, but likely to induce serious disease, and its employment in this form will increase the already excessive mortality from pulmonary disease among prisoners that was commented upon at the late inquest.

The new system of prison diets came into force on the 15th May last, and in THE LANCET, May 25th, we gave a *resumé* of the chief points of interest connected with them, together with full tables of the diets of different classes. Commenting upon these, we objected to the diet of Class 2, for men *with hard labour*, as being too severe, and certainly insufficient for their physiological requirements. With regard to the novel step of substituting fat bacon and beans for fresh meat on one day in the week, we believed this to be a step in the right direction, but regarded it as simply an experiment. Now it is the essence of all experimental inquiry that the results should be carefully watched and recorded. Though the principle may be theoretically correct, yet, dealing with an already extremely restricted dietary, it is a question whether the withdrawal of four ounces of fresh meat and the substitution of nine ounces of beans and one ounce of bacon is practically justifiable. We have looked in vain through the report for detailed statistics on this point, but have had to content ourselves with the statement that the Commissioners have "every reason to believe that it furnishes sufficient, and not more than sufficient, amount of food to all persons who are subject to it." Like a Nasmyth hammer, it is powerful enough to depress the sturdy criminal and make its infliction a terror to him without acting injuriously on the weak—a physiological paradox at present beyond our powers of solution.

While on the question of diets, we would draw earnest attention to that provided for infants born in local prisons or received therein with their mothers in cases in which the nursing powers of the mother are defective. We give the scale in full:—Diet for infants, under three months, at the discretion of the medical officer; from three to six months, *half a pint of milk daily*; from six to nine months, six ounces of bread and one pint of milk daily, and half a pint of beef-tea three times a week.

The regulations for infants under three months and over six months are dictated by common sense and humanity; but why punish infants between three and six months by such a limited allowance of milk? Medical men are fully aware that the amount of milk required by an infant at this age varies considerably with the individual, and we have high authority for stating that the average allowance ought not to be less than one pint; in many cases more is required. Surely this is a point that ought to be left to the discretion of the medical officer. We have no right to punish the child as a criminal.

Lastly, with regard to the punishment of ill-conducted prisoners. By Section 43 of the Act the governor of the prison is not allowed to confine a prisoner in a punishment-cell for more than twenty-four hours. We are informed, however, that soon after the first meeting of the Visiting Committee at the Clerkenwell House of Correction "they found that the governor was confining prisoners for longer periods in their own cells *on bread and water*. They remonstrated with the governor, who replied he was in the right, as the cells in which the prisoners were confined were not punishment cells." Now, practically, since the introduction of plank-beds there is no difference between an ordinary and a punishment cell. Consequently the justices, thinking the governor was exceeding his duty, appealed to the Home Secretary, who, most unaccountably, as we think, decided in favour of the view of the Act taken by the governor. We are not surprised that the jury, having the full circumstances of Nolan's death before them, expressed an opinion that "all kinds of repeated punishments should only be administered under the authority of the Visiting Justices."

In conclusion, we would express our decided conviction that the system of prison discipline is still very defective, and that to many criminals it is most unjust. We have no foolish sentiment towards the criminal classes, but we feel that if further inquiries like that just concluded by Dr. Hardwicke take place, an expression of public feeling will be manifested which will cause an undoing of much that is salutary in the prison system, and we shall go to the extreme of undue leniency. By all means, let us punish criminals to the full extent of their physical endurance, but not beyond; and, in order to do this safely, it will be necessary to keep a constant watch over each individual prisoner and regulate his task and diet accordingly, and not group them into classes as at present. And we would further urge the necessity, in all cases where punishment is inflicted in prison for idleness or obstinacy, that careful thermometric records of the prisoners' temperature should be taken, lest the supposed idleness be found too late to be due to pneumonia or tuberculosis.

Correspondence.

"Audi alteram partem."

HAMPSTEAD SMALL-POX HOSPITAL.

To the Editor of THE LANCET.

SIR,—I have read your leading article on this subject (Dec. 7th) with very great surprise and disappointment. The verdict of the jury, if allowed to stand, will be dangerous, if not fatal, to the plan for treating epidemic diseases which was adopted under "Gathorne Hardy's Act." That verdict rests upon considerations which no one can discover in the imperfect reports of the long trial given in the daily newspapers. You have given no report at all, I believe. Your leading article does not in any way explain why you agree with the jury in considering the Hampstead

Hospital a nuisance to the plaintiffs *per se*, and also a nuisance on account of its management, except it be that you think the site a bad one, and that you think the approach to it such as to render probable some communication between the ambulances or sick-conveyances and the persons in the road. I hope you will not consider that I am trespassing on your space if I ask you to speak a little more plainly on this subject, and if I beg to be allowed to put before your readers a few facts on the other side. I only write in discharge of what I think my duty, having been a member of the Committee of the Asylums Board, which first selected and recommended this site. Had my esteemed friend Dr. Sibson been alive, I would willingly have left the matter in his far abler hands. His advice on this subject had naturally far more weight than mine, as I am only a surgeon, and have no special knowledge of epidemic diseases, while he was one of the most accomplished and painstaking physicians of his day. We both belonged to the Board for the first few months of its existence, and were both still members of it when the selection of this site was originally opposed by the neighbours. At that time all the medical members of the Board, and the medical advisers of the Local Government Board, were fully convinced that the site was admirably adapted for the purpose of receiving and treating cases of infectious fever, and that no harm could arise to the neighbours if the place were properly managed. Nor did I understand that the selection of the site was in question at the trial. In consequence of my former connexion with the Board, I was subpœnaed to attend the trial, but was told by the counsel and solicitor for the Board that the selection of the site was not contested, and that therefore I need not give evidence. I conclude therefore that the verdict, which you say expresses the common-sense view of the case, must rest upon some other considerations than those which you bring forward in relation to the site itself. Yet I would not willingly leave these without reply. You refer to an article by a special correspondent of your own in December, 1874. I read that article at the time, and have reperused it; yet I cannot see that it in any way supports the present verdict. Your correspondent's report appears to me to be entirely in favour of the site.[1] It shows its ample extent—more than eight acres. It shows that you are in error in believing that there is only one access to the ground—that from the main road—for there is another, and a much better one, from Fleet-road, which is closed only by the obstinacy of the owner of the property bordering on the road, who is, I am told, one of the plaintiffs, though I cannot take it on myself to affirm this latter fact of my own knowledge. You speak of the present buildings, as if those in which patients are treated and the exercising grounds in which they walk were close to the neighbouring houses. If you would go to the place itself you would see that the shed which is nearest to the houses owned by one of the plaintiffs is only occupied by convalescents, who are not permitted to walk in the ground separating it from the back gardens of the houses. It is true that the attendants are allowed to walk in this ground, and that the inhabitants of the houses, if they choose to climb their own garden walls, can enter into communication with these attendants if they also climb the wall: and this no doubt might be dangerous if the inhabitants choose to remain unvaccinated. But there is no proof, as far as I know, that anything of the sort ever took place; if it did, it would certainly be as much or more the act of the inhabitants than of the Asylums Board, and the possibility could be obviated in a day by putting chevaux-de-frise or some broken bottles on the wall. As to what has been said about alternative sites, I can only say we saw none which seemed to us so eligible in every way as the Bartrams, though we searched patiently the whole northern district of the metropolis, with the aid of the most experienced land agents. After this site had been purchased, it is true, some others were suggested by the inhabitants of Hampstead, but the Board thought them ineligible, and they would, I believe, have been exposed to exactly the same legal objections. For it must be recollected that the inhabitants of Hampstead are not singular in their objection to having a small-pox or fever hospital in their vicinity; exactly the same objection was felt some years ago in Islington when the Fever Hospital was removed there. The value of property around was said to have fallen to one-half. But the proprietors were too poor or not speculative enough to try the chance of law. The alarm subsided when time had shown its groundlessness—as this would have done if the present action had terminated otherwise,—and no one now thinks anything about the matter. The only argument, in fact, which I have seen to show that the hospital is a nuisance *per se* is that which you have justly denounced as merely trumpery and "*ad captandum*"—viz., that cases of small-pox have been more numerous near it than the ratio calculated for the parish generally. Yet this is the argument triumphantly brought out in *The Times* by Mr. Pearson Hill and others, and is the one which doubtless weighed most with the jury. So dangerous is it to leave medical questions to be decided by persons necessarily quite ignorant of the matter. If it is sufficient to prove a hospital a nuisance to prove that people do not like to live near it, then no hospital for infectious diseases—nay, hardly any hospital at all—could be established in a city without being indicted. But if that were the law (to say nothing of its absurdity) the Legislature would never have directed the establishment of such hospitals. Another argument which is much used is, Why was this hospital placed at Hampstead—why not further off, as at Highgate, or still further in the country? In the first place, what would have been the advantage? If Sir Rowland Hill can claim damages from this hospital, the premises of which only adjoin his field, and the approach to which would have been entirely away from his house but for the obstinacy of a person who, as I believe, has also claimed damages, why should not someone at Highgate do the same? To any unprejudiced observer, I should have thought Sir Rowland Hill would appear to be in no more danger from the hospital than the Duke of Wellington at Apsley House. As to any annoyance, I doubt if the hospital premises are even visible from his back windows; if they are, a few trees would soon hide them. The house itself is quite away from the hospital premises. And as to the approach of patients annoying him—if it really does so, he may thank the proprietor of the Fleet-road. So with the other plaintiff, Mr. Lund. His building property, we are told, has been depreciated. Possibly for a time it has. But would not a similar effect have followed wherever it was placed, if it were in any suburb at all? And to go into the open country is, in the present circumstances of London, impossible. The Board is represented as having (in the cant of the day) "fixed a hard and fast line" at three miles from the centre of the metropolis. I do not suppose they ever did so, but in litigation it is a very common trick to lay hold of some casual expression of this sort used by your adversary and represent it as being proposed by him as a fundamental proposition. All that was said at the time was that it was desirable to have as short a distance as possible to transport these fever patients,[2] and that three miles should be looked upon as about the furthest distance which, as a general rule, patients ought to have to travel. It must be remembered that in times of epidemics the number of patients, very severely ill, and of their friends, is very considerable. Much loss of life and great hardship and distress would follow, if the hospital were situated far from the centre of the city. We wished to have placed it in a much more central situation, but were prevented by the fact that the Board had no compulsory powers of purchase. In times when there is no epidemic, and when, therefore, some of the hospital establishments are broken up, it is necessary to send the sporadic cases which occur a longer distance; but that which is necessary under exceptional circumstances is not thereby shown to be best as a rule. As to the ambulances, though you praise the common sense of this verdict, I cannot but think that your own view is much more in accordance with common sense—viz., that it is hard to see how the plaintiffs can be held entitled to damages on that account, unless they can show that they themselves suffered some harm. If they are entitled because the general public is thought to be endangered, why should not you and I, who are equally members of the public? Now, I will not deny that the present system of conveyance of patients is susceptible of

[1] After alleging some minor objections to the site, immaterial in any case, and I believe deriving no support from the experience which has now been obtained of it, the report concludes very sensibly, "But we cannot see that the Board would be justified in abandoning it on these grounds only. To sum up, we believe that most of the supposed dangers do not exist, and that such as are really to be feared may be readily obviated by proper precautions."

[2] Here, again, I am happy to avail myself of your special correspondent's report. "The large number of cases of small-pox admitted from St. Pancras in the epidemic, and the constant prevalence of fever in that parish and in St. Giles's and Holborn, show the necessity for some near means of isolation; and experience has conclusively shown that the number of cases that can with safety be removed diminishes greatly with increased distance from the hospital."

amelioration. I do not see that any real harm has been proved to have occurred, except in the instance of the wife of one of the plaintiffs, Mr. Fripp, who looked into one of these sick carriages and is said to have so caught the disease; but if it is true that these carriages have been allowed to stop at public-houses for drink or chat, it is clear that danger might be caused; and even in Mrs. Fripp's case, though it may be true that she owed her calamity to her own imprudence, it is clear that the occurrence ought to have been rendered impossible. It should be known, however, that these carriages are not the property nor under the control of the Board. They belong to the individual vestries. I think a far more effectual precaution than the "disinfection" spoken of by the jury would be to place the carriages, as well as the reception and treatment of the patients, under the control of the Asylums Board, who would be responsible for their proper regulation. And let it not be forgotten that even if we were obliged to conclude that there is distinct evidence of unavoidable danger in moving small-pox and fever patients to hospital (the contrary of which, I contend, is the conclusion to which all experience points), yet we must compare this with the danger of leaving them at home. I have heard it stated that Dr. S. Gibbon told the jury that he believed the two recent epidemics of small-pox were so severe in consequence of the patients being carried through the streets. May I inquire if this is true? and, if so, on what grounds Dr. Gibbon made the statement? One would have thought *à priori* that any slight risk involved in the carriage of the patient would have been as nothing compared to the vast benefit derived from his subsequent isolation.

As to any disregard of the rights of the inhabitants of Hampstead, I must say that I am totally unable to discover anything to support such a charge. The hospital was placed there because there only did we think we could find a suitable site. The Managers then believed, and still believe, that no danger whatever would accrue from it.

I find a general impression prevails that this hospital in some way obstructs the way to Hampstead Heath. Those who have been to the place know how absurd this is; still I think it as well to say that no one going to the Heath from any part, or by any road, need see or know of the existence of the hospital, nor is he in any greater danger of catching small-pox from passing along the road, out of which the lane opens in which the hospital is placed, than he would be of catching fever by driving along the Liverpool-road, or of catching small-pox by a visit to Highgate. This argument also has been used to create an impression on the public, but cannot have been seriously believed in by anyone who is acquainted with the circumstances.

I have, I fear, been prolix, but the subject is so complicated, and, I find, so generally misunderstood, that I have been unable to avoid writing at some length. Let me conclude with an earnest appeal to the medical men who thought it their duty to give evidence on behalf of the plaintiffs, and especially to the respected President of the College of Physicians, to explain their evidence, or, at any rate, to see that it is published *in extenso*. The latter especially, from his public position, is bound not to oppose the action of a public body taken, as everyone admits, with the single object of carrying out the beneficent intentions of the Legislature, except for the gravest reasons. If public danger had been caused by the action of the Asylums Board—if real proof had been within his knowledge of the spread of small-pox or fever in consequence of their mismanagement—if he had reason to know that the interior arrangements or treatment of the sick had been bad, then I can imagine that the President of the College would feel it his duty to interfere. But if he was brought there, as the slight sketch of his evidence in *The Times* seems to show, merely to add authority to the names of the medical witnesses for the plaintiffs, and to tell the jury what everyone knew before—viz., that no one likes to live near a small-pox hospital—it may be questioned whether he should have lent himself to such a manœuvre. In any case the managers have a right to ask so great an authority, as he has mixed himself up in the matter, for counsel as well as criticism.

I am, Sir, yours &c.,

December 10th, 1878. T. HOLMES.

*** We cannot see that there is much that is new in Mr. Holmes's letter, but as a statement of the views of the Board it is worthy of consideration. The points of difference between Mr. Holmes and ourselves appear to be minor matters of judgment, and to rediscuss them in detail would occupy too much of our space. The general opinion which we expressed we adhere to, for, whoever may be responsible for the closure of the Fleet-road access, it is only one and not all the plaintiffs, and the mere fact that it was so far a private road that it could be closed, and that the Board did not ascertain this fact, shows that they did not act with proper caution. Nor, on the other points of difference, do we think that the view adopted by Mr. Holmes would be generally accepted by uninterested persons. The discrimination of convalescent wards can hardly be made from their external appearance, nor do we suppose that there can be any rule which will always be enforced that the ward nearest the boundary wall will be used for none but convalescents. We have yet to learn that small-pox is not highly contagious from convalescents.—ED. L.

THE ACTION OF HYOSCYAMINE AND ITS RELIABILITY.

To the Editor of THE LANCET.

SIR,—The question of the reliability of a drug is a most important one, and the varying effects of different samples may give to different observers very erroneous ideas of its action, and consequent dose.

I have hitherto found Merck's extractive amorphous alkaloid, obtained through Messrs. Harvey and Reynolds, of Leeds, a very reliable and uniform preparation, and entirely corroborate Dr. Lawson's observations, which appeared in THE LANCET recently. I have had many samples, each obtained in the same way, and have noticed no variation in the effects produced on the same patients, some of whom have been taking the drug at intervals for many months. Very lately, however, I have received two samples which certainly have proved almost, if not quite, inert. The hyoscyamine I had hitherto received was of a dark brownish colour, with a slight dirty-greenish tinge, and of a peculiar disagreeable smell, almost mousey; but a sample which I received a few weeks ago was of a much lighter colour, almost a golden brown, with a smell more like that of *gas* liquor than anything else. I noticed the difference in colour, and the attendants drew my attention to the fact that the medicine did not produce the same effect as that which the patients had previously taken. I increased the dose, but could not find that it produced any of the physiological effects of the previous samples. I wrote to Messrs. Harvey and Reynolds; they admitted that there had been a difference in the colour of the preparation, and regretted that it should vary, and they kindly sent me a fresh sample. I noticed that this was of the same light colour, and, having doubts as to its efficacy, I determined, if possible, to test it carefully, and compare its action with that of the former samples. I obtained from a friend, Dr. Swanson, of York, a small portion of a sample of the alkaloid procured from Messrs. Harvey and Reynolds some months back, and which was of the same colour that my previous samples had been. I then made up a solution of each in the same way, and to give a clear idea of what the difference in colour was, I found that in a solution—one grain to twenty-four minims—the colour of the new sample was as nearly as possible that of tincture of myrrh, and the colour of the older that of tincture of digitalis. I selected two patients who had previously taken hyoscyamine, and were particularly susceptible to its action—a patient, A. B., suffering from epileptic mania, and a patient, C. D., a case of pure mania. On successive days I gave each a dose of hyoscyamine, and at the same time. On the first day, they each had a dose of one-eighth of a grain of the last sample of the alkaloid, and I saw and watched them closely during the ensuing four hours. The pupils of the patient A. B. measured 1½ lines at the time of administration of the drug, and during the four hours no variation beyond an immeasurable one took place; there was no observable change in her in any way, her condition remained loud and boisterous. The pupils of the patient C. D. measured 1½ lines at the time of administration, and four hours afterwards the greatest measurement had been 1½ lines. There

was no change in this patient. The following day at the same time, the patient A. B. had one-eighth of a grain of the old sample given in the same way exactly as the former. At the time of administration the pupil measured 1½ lines. One hour after administration the patient, who had been very sleepy, had staggered about, and finally fell; she was quite unable to stand, spoke slowly and exactly as if drunk; her words were almost undistinguishable; her pupils measured 2¼ lines. She slept the most part of the next few hours, but four hours after the administration of the drug her pupils measured 3¾ lines, and her excited condition did not recur during the whole of that day. The patient C. D. had one-sixteenth of a grain; at the time of administration the pupils measured 1 line; during the next four hours she was quite quiet, her constant talking ceased. At the end of four hours her pupils measured 2¼ lines. I am informed that one grain of the newer sample was given to a rabbit with no result, and that one-third of a grain of the older sample produced all the usual symptoms.

The results of the above experiments prove conclusively that some samples of the alkaloid are almost inert, but when the amorphous extract has the dark tint, I have never known it fail to produce, in doses of one-eighth of a grain, and even one-sixteenth, decided proofs of its action.

I make and keep a concentrated solution which does not change to the extent the dilute solutions do. I have usually kept a solution, one grain in twenty-four minims, made up of alcohol eight minims, spirits of sulphuric ether four minims, water twelve minims. This solution may be mixed with water for administration by the mouth, or it may be used hypodermically with perfect safety. I have used it in this way now for some time. Dr. Lawson has adopted, I believe, the same formula, but amended it by making it one grain in forty minims, for the greater convenience of administration.

More lately I have received, through the courtesy of Messrs. Harvey and Reynolds, another example of hyoscyamine, and I have tested this carefully in a similar manner to the last. This sample was not inert, but its effects were certainly not altogether the same as those produced by the earlier sample, some of them being at variance with the known action of the drug; neither was it so powerful as regards the effects common to both.

These variations in the different samples (from absolute inertness to effects denoting powerful activity) are quite sufficient to account for the discrepancies between the letters which appeared in THE LANCET a few weeks back, from observers describing the effects of the doses they had given; and when it is remembered that these samples were obtained from the same wholesale chemist and from the same manufacturer, how much more likely are the effects to vary when obtained from different manufacturers.

It appears to me—after carefully watching the effects of these different samples obtained from so eminent a chemist as La Merck, and presumably prepared by the same process—that this amorphous preparation is a compound of more than one alkaloid, and that their varying proportions produce the varied effects to be observed of the different samples upon the same patients, whilst absolute inertness must denote either an absence of alkaloids, or that they are negatived by some fault in the method of preparation. That these results should occasionally occur is much to be deplored, as they lead to a distrust and want of confidence in the drug which may prevent it from being used when its administration may be extremely beneficial, and may retard its more general investigation; and this is all the more to be regretted, inasmuch as hyoscyamine is undoubtedly a most valuable drug in the treatment of insanity, indeed one of the most valuable we have. It produces a most beneficial effect in most of the forms of mania, and it certainly will produce a continued abatement of mental excitement when all other drugs fail.

In conclusion, I must say that Messrs. Harvey and Reynolds have offered every facility for an examination of their different samples of this drug, and have expressed their great regret that they should have varied.

Since writing the above, I have received from M. Merck, through Messrs. Harvey and Reynolds, a letter to the effect that, owing to the supply of the leaves of hyoscyamus falling short, he had been manufacturing the extractive alkaloid from the root, and that this accounted for the variation in colour, but he maintained that it did not interfere with the activity of the drug. From this I am the more inclined to believe, what I had suspected, that this extractive, especially when prepared from the root, contains more than one active principle; and it will be of great advantage when we are able to obtain the pure alkaloid in sufficient quantity and at a moderate price.

I am, Sir, your obedient servant,

ENGLEDUE PRIDEAUX,
Assistant Medical Officer, Friends' Retreat, York.

November, 1878.

BIRMINGHAM.

(From our own Correspondent.)

THE recently-issued quarterly report of Dr. Alfred Hill, the medical officer of health, shows that the death-rate has been unusually high, 25·90, while for the corresponding quarter last year it was 22·25, and in 1876, 22·47. The excessive rate is due to the large number of deaths from diarrhœa and scarlatina, 534 fatal cases of the former and 304 of the latter having occurred; 69 per cent. of the diarrhœa cases were in infants under one year of age. Variola caused two deaths. The total zymotic death-rate was 10·4 per 1000, which is considerably above the average of the last three years. It is gratifying to find that the Borough Hospital is being utilised to a greater extent than formerly, 139 cases of scarlatina and 6 of variola having been taken there during the quarter.

The Hospital Sunday collections have, in spite of the great commercial depression, been unprecedentedly good, and the Queen's Hospital will receive the handsome sum of £6400.

The governors of that charity held a meeting on the 27th ult., under the presidency of the Mayor, to consider the position of the hospital and its future prospects. Mr. J. Chamberlain, M.P., said that the prosperity of such an institution as the Queen's Hospital was one of universal concern. The present management of the institution deserved the confidence of the inhabitants of the town and neighbourhood, and the good work previously done could be continued if the means of doing so were forthcoming. No doubt the free system was the right system, and the embarrassment of the hospital was not due to that cause, but to the great extensions which were made a few years ago. It should be remembered that these extensions were necessary, and that, owing to the increase of population, the hospital was not too large for the needs of the town. He concluded by moving a resolution as to the necessity of at once making an effort to obtain £4500 to free the committee from debt, and to secure an increase in the subscriptions of at least £1000. He generously headed the list of contributions with a sum of one hundred guineas; a like sum was contributed by Dr. Heslop, and other sums of smaller amount have since been announced, which will in all probability in the course of a short time make up the required sum, and relieve the hospital from the incubus of debt, under which it has so long laboured.

The Birmingham Philosophical Society, of which Dr. Heslop is the President for the present session, has just issued its annual report, from which it appears that the number of members has risen from 87 to 103. At the last meeting a valuable and interesting communication was made by Dr. Norris, the Professor of Physiology in Queen's College, "On the mode of Development of Mammalian Blood." The paper was illustrated by means of microphotographs and the oxyhydrogen light, and was received with great attention by a large number of members of the medical profession, who had courteously been invited by the President and Council.

Birmingham, Dec. 9th, 1878.

ROYAL COLLEGE OF SURGEONS.

AT an ordinary meeting of the Council, held on Thursday last, a report of the president and vice-presidents, recommending the application of the Erasmus Wilson Fund to the promotion of the study of Pathology (including Dermatology), among the fellows and members of the College, by original research and by lectures, was read and adopted.

The members of the last Board of Examiners in Anatomy

and Physiology were re-elected, with the exception of Mr. Savory, who did not desire re-election, and Mr. Wagstaffe, who was compelled to resign a few months ago, in consequence of ill-health. On the recommendation of the Committee on Examinations in Anatomy and Physiology, Mr. Walter Rivington, of the London Hospital, and Mr. Morrant Baker, of St. Bartholomew's, were elected to the two vacancies.

A letter was read from Sir James Paget, as the College representative in the Medical Council.

The consideration of Mr. Hancock's motion, that the College should not take further action in the Conjoint Scheme until this was made compulsory for the three divisions of the kingdom, was postponed.

The following recommendation of the Board of Examiners was adopted:—"That it be recommended to the Council that a candidate, referred on the Primary or Anatomical and Physiological Examination for the diploma of member, who shall not obtain more than half of the total minimum number of marks, be required, on admission to re-examination, to produce a certificate of the performance of dissections during six months, instead of three months, subsequently to the date of his reference."

PARLIAMENTARY PROCEEDINGS.

DISQUALIFICATION OF MEDICAL RELIEF BILL.

IN the House of Commons on Wednesday, December 11th, Mr. RATHBONE moved the second reading of this Bill, the object of which he explained to be to provide that no person shall be deemed to be disqualified to be registered as a voter at Parliamentary or municipal elections by reason that he or any member of his family has received medical treatment or relief for any infectious or contagious disease as an in-patient or out-patient of any hospital, infirmary, or dispensary. The diseases he defined were scarlet fever, small-pox, and cholera. These were the diseases we had most to dread. Everyone knew how difficult it was to overcome the prejudices against going into hospitals, and it should be their object to remove the causes which lead to those prejudices. One of the causes was that with regard to the franchise, and this his Bill desired to remove.

The Bill was read a second time.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following Members, having passed the Final Examination for the Fellowship on Nov. 21st, 22nd, and 23rd, were, at a meeting of the Council held on Thursday, duly admitted Fellows of the College:—

Atkinson, Richard, B.A. Cantab., Carlisle; diploma of membership dated April, 1876.
Brown, John, M.D. Aberdeen, Loven-terrace, Edinburgh. (Not a member.)
Cumming, Hugh Gordon, L.R.C.P. Ed., Exeter; Jan. 1875.
Eve, Frederic Saml., L.R.C.P., Stanford-le-Hope, Essex; Aug. 1876.
Makins, Geo. Henry, L.S.A., Walton-on-Thames; July, 1875.
Moullin, Chas. W. M., M.B. Oxon., Porchester-terrace; Aug. 1876.
Potter, Henry Percy, L.S.A., Hove Villas, Brighton; April, 1875.
Pye, Walter, Sackville-street; July, 1876.
Treves, Frederick, L.S.A., Wirksworth, Derbyshire; April, 1875.

Seven other candidates were admitted to examination on the above-mentioned days, but failed to reach the required standard, and were referred for twelve months' further professional study.

UNIVERSITY OF LONDON.—The following are the names of the candidates who have passed the recent B.S. Examination for Honours:—

SECOND CLASS.

Eq. { Benham, Frederick Lucas, University College.
Eq. { Gadsby, John Topham, "
Eq. { Blake, William Henry, "
Eq. { Miller, Richard Shalders, "

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on Dec. 5th:—

Ogle, Charles James, Hunter-street.
Saunders, William, Sampford Peverell, Devon.

The following gentleman on the same day passed the Primary Professional Examination:—

Knaggs, Henry Valentine, University College.

PERCY BUTLER STONEY, M.R.C.S., has been appointed Coroner for the Manor, Seignory, and Lordship of Millom, by the Earl of Lonsdale.

DR. JOHN D. HEATON has been presented with a handsome silver salver by the Council of the Leeds Medical School upon his resigning the office of treasurer.

DR. EDWARD J. SHEARMAN bequeathed to the Mayor of Rotherham, for the use of the burgesses, all his philosophical and chemical instruments, and such books in his library as his wife and nephews did not choose to select from it.

THE 2016 deaths registered in London last week included 389 which resulted from the sinking of the *Princess Alice* on September 3rd; the remaining 139 of the 528 deaths which were the subject of the recent inquest held by the coroner for Kent, will be registered in the current week. Exclusive of the 389 deaths above referred to, the mortality-rate of the week was 23·7. Small-pox accounted for 4 deaths; measles for 28; scarlet fever for 62; diphtheria for 9; whooping-cough for 42; different forms of fever for 29; diarrhœa for 9; and diseases of the respiratory organs for 460.

BORRISOKANE UNION.—The medical officer of Cloughjordan district has recently reported on the want of water for that town, and also on the unwholesome quality of that supplied at Ballingarry, containing as it does a large quantity of organic matter, which renders it unfit for use.

VACCINATION GRANTS.—The following gentlemen have received from the Local Government Board gratuities for successful vaccination in their respective districts:—Mr. S. B. FARR, Andover, £14 18*s.* (second award); Mr. R. Wotton, King's Langley, £6 16*s.* (fourth award); Mr. J. H. Hughes, Ombersley (second award); J. Kilsham Kenyon, Billingborough, £7 5*s.* (fourth time.)

MEDICAL STUDENTS.—The past year (1877) represented a larger number of gentlemen pursuing their professional studies at the metropolitan and provincial schools than has been known since the establishment of the registration at the College of Surgeons—viz., at metropolitan hospitals 1922, and at the provincial 411, making the large total of 2333. In 1867 there were only 1382.

DUBLIN HOSPITAL SUNDAY FUND.—The total sum received up to last week amounted to £3845, but as collections from some twenty-five churches have not yet been returned, also some special donations, it is only possible at present to give an approximation of the total, which is expected to amount to about £4200, or an increase of £300 over that of the preceding year.

Medical Appointments.

ATKINSON, Dr. J., has been appointed Assistant to the Resident Medical Superintendent of the Sligo District Lunatic Asylum, vice McMunn, resigned.

BARNES, R. S. F., M.B., C.M., M.R.C.P.I., has been appointed Physician-Accoucheur to the General Lying-in Hospital.

BELL, G. P., M.B., C.M., M.R.C.S.E., has been appointed a Medical Officer to the Leicester Provident Dispensary.

BENNETT, S., L.R.C.P.I., M.R.C.S.E., L.D.S.E., has been appointed Dental Surgeon to the St. Marylebone General Dispensary, Welbeck-street, Cavendish-square.

BUCKELL, F., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Romsey Rural Sanitary District, at £60 per annum.

DOUGLAS, C., L.R.C.P.I., M.R.C.S.E., has been appointed a Medical Officer to the Leicester Provident Dispensary.

FINLAY, Dr., has been appointed Medical Officer, Public Vaccinator, &c., for the Ballycroy portion of the Achill Dispensary District of the Newport Union, co. Mayo, vice Flannery, resigned.

HALL, C. S., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Carlisle Rural Sanitary District, for three years.

HAMILTON, W., M.B., has been appointed Medical Officer, Public Vaccinator, &c., for the Dromahair Dispensary District of the Manorhamilton Union, co. Leitrim, vice Molony, appointed to the Collooney Dispensary District, Sligo Union.

HEAP, C. S., L.R.Q.C.P.I. & L.M., M.R.C.S.E., has been appointed Medical Officer for the Biddenden and High Halden Districts of the Tenterden Union, vice Harding, resigned.

HENDERSON, G. C., M.B., M.R.C.S.E., has been appointed Resident Medical Officer to University College Hospital, vice Jameson, resigned.

HOLLIS, E., M.B., C.M., has been appointed House-Surgeon to the East Suffolk Hospital, Ipswich, vice Gainford, resigned.

KERBEY, W. H., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health, *pro tem.*, for the Bromyard, Hereford, Ledbury, Leominster, and Weobley Rural Sanitary Districts, at the rate of £300 per annum.

LEIGH, W. W., M.R.C.S.E., has been appointed Medical Officer of Health for the Llanfabon Sub-district of the Pontypridd Rural Sanitary District, vice J. Leigh, F.R.C.S.E., resigned.

MCLACHLAN, J. C., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Northowram District of the Halifax Union, vice R. McLachlan, L.R.C.S.Ed., deceased.

MAISEY, F. T., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the No. 3 District of the Chipping Norton Union, vice Cotterell, resigned.

MOULLIN, J. A. M., M.B., M.R.C.P.L., has been appointed Physician-Accoucheur to Out-Patients, General Lying-in Hospital.

PARROTT, T. M., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Hedgerley District of the Eton Union, vice French, resigned.

PLAYFAIR, W. S., M.D., F.R.C.P.L., has been appointed Consulting Physician to the General Lying-in Hospital.

REDWOOD, T. H., M.D., C.M., has been appointed Medical Officer and Public Vaccinator for the Rhymney District of the Bedwellty Union, vice L. Redwood, M.R.C.S.E., resigned.

STEPHENSON, F. L., M.B., C.M., has been appointed Medical Officer of Health for the Honiton Urban Sanitary District, at £30 per annum, vice Shortridge, whose appointment has expired.

THEED, W. C., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Leicester Provident Dispensary.

VINCENT, H. B., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the East Dereham Urban Sanitary District, at £25 for one year.

WARD, T. M., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Exmouth Urban Sanitary District, at £40 for one year, vice Hartnoll, whose appointment has expired.

Births, Marriages, and Deaths.

BIRTHS.

DRING.—On the 1st inst., at Boughton, Kent, the wife of William Ernest Dring, M.D., L.R.C.P.Ed., of a daughter.

DYSON.—On the 8th inst., at Brook House, Gell-street, Sheffield, the wife of William Dyson, B.A., M.D., of a daughter.

FENNINGS.—On the 4th inst., at Clarendon-road, Notting-hill, the wife of Allen Fennings, L.R.C.P.Ed., of a son.

STONEY.—On the 3rd inst., at Abbeyleix, Queen's County, the wife of Hugh B. Stoney, M.B., of a daughter.

WILSON.—On the 1st inst., at Walker-terrace, Gateshead, the wife of R. H. Wilson, M.D., of a son.

WOOD.—On the 18th October, at the Royal Naval Hospital, Yokohama, the wife of John Wood, L.K.Q.C.P.I., Surgeon R.N., of a son.

MARRIAGES.

DAVISON—TAYLOR.—On the 28th ult., at the Parish Church, Leeds, by the Rev. F. J. Wood, assisted by the Rev. E. W. Hobson, James Edgar Davison, M.D., of Carlton House, Sharrow, Sheffield, to Sarah May, third daughter of the late Samuel Taylor, of Hyde-terrace, Leeds.

LEAKE—DUNNE.—On the 28th ult., at St. Andrew's Church, Westland-row, Dublin, George Dalton Nugent Leake, Surgeon, Army Medical Department, eldest surviving son of Jonas Leake, M.D., of West Kensington-gardens, to Annie, daughter of the late William Dunne, Esq., of Larch-hill, co. Kildare, Ireland.

NAISMITH—GAIRDNER.—On the 5th inst., at Airlie, Ayr, N.B., by the Rev. Thomas Dykes, D.D., assisted by the Rev. John Lime, Dundonald, William John Naismith, M.D., eldest son of the late John Naismith, M.D., Deputy Surgeon-General, Bengal Army, to Elizabeth, youngest daughter of the late Charles Dalrymple Gairdner.

PEAKE—CROSTHWAITE.—On the 5th inst., at Christ Church, Falkirk, N.B., by the Rev. J. M. S. Brooke, Incumbent, Joseph Peake, L.F.P.S.G., of Falkirk, to Janie, only daughter of the late R. W. Crosthwaite, Esq., of Graeme's Dyke, Falkirk.

DEATHS.

BROWNE.—On the 16th ult., at Bandon, co. Cork, Charles James Browne, M.B., aged 26.

GREAVES.—On the 30th ult., at Great Easton, Leicestershire, Thomas Ley Greaves, L.S.A.L., aged 74.

HADDEN.—On the 2nd inst., at Main-street, Wexford, John Hadden Hadden, L.A.H.D., aged 36.

MONTGOMERIE.—On the 29th ult., at Ayr, James Montgomerie, F.R.C.S.Ed., aged 68.

MULLER.—On the 1st inst., at Carlton-road, Paddington, Frederick S. Muller, M.R.C.S.E., aged 70.

MUSHET.—On the 28th ult., at Malden-crescent, Kentish-town, John George Mushet, M.R.C.S.E., aged 58.

SAUNDERS.—At Seaton-terrace, Mutley, Plymouth, William McKenzie Saunders, M.D., Deputy Inspector-General of Hospitals and Fleets (on the Retired List), aged 60.

SHAW.—On the 4th inst., Henry Edwin Farnell Shaw, M.R.C.S.E., of Sutton Coldfield, aged 68.

SMALLMAN.—On the 7th inst., at Wigan, Richard S. Smallman, A.B., M.B. T.C.D., L.R.C.S.I., aged 34.

WALLACE.—On the 30th ult., at The Mumbles, near Swansea, John Wallace, late Staff-Surgeon R.N., aged 52.

WATTS.—On the 25th ult., at Bird-in-Bush-road, Peckham, Septimus Watts, M.R.C.S.E., aged 82.

WAYLEN.—On the 6th inst., at Mount Hall, Great Horkesley, William Waylen, F.R.C.S.E., aged 73.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*]

Notes, Short Comments, and Answers to Correspondents.

HARVEY TERCENTENARY MEMORIAL FUND.

WE are requested to state that the Sub-committee have invited Messrs. C. C. Birch, A. Bruce Joy, and Hamo Thornycroft, to furnish designs for the proposed Statue of Harvey to be erected at Folkestone. These three artists have all accepted the invitation, and their models are to be ready by the first day of March next. The funds required for the completion of the undertaking have now been subscribed, with the exception of about £250. Donations to complete this amount are still required, and will be thankfully received by either of the Honorary Treasurers (Sir G. Burrows or Mr. Prescott Hewett), or by either of the Honorary Secretaries (Mr. G. Eastes, M.B., or Mr. W. G. S. Harrison, B.A.); or they may be paid in to the account of the "Harvey Tercentenary Memorial Fund" at the Western Branch of the Bank of England, Burlington-gardens, London, W.

PRIMARY EXAMINATIONS AT THE COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—It is well both for the profession and the public that the examinations which give admission to the practice of surgery should be frequently subjected to criticism; and your article, together with the letter which evoked it, may bring home to the Council of the College the expediency of making certain changes in their method of conducting the examinations.

After having spent five years in the dissecting-room of Guy's Hospital in preparing students for the anatomical and physiological examinations, I may perhaps be allowed, without presumption, to give my experience concerning them.

My opinion of the primary examination for the membership differs from that which I have often heard expressed. I believe it to be an easy, efficient, and not uncertain test of a student's knowledge—an examination for which a student can so prepare himself as to make certain of passing. Were it otherwise, one could not have selected twenty-one students in succession as fit to pass without losing some one of them; nor could fifty-eight Guy's students (as happened in the April and May examinations of 1877) have been sent up, with only five rejections. I am, therefore, inclined to think that the risk of the examination is always on the side of the student, and generally in his favour.

My experience of the primary examination for the Fellowship is quite different. It is severe without being discriminative—narrow, uneven, and variable. Among teachers it is notorious as an examination at which good anatomists are often rejected, whilst partially prepared men fluke through. This is no reflection on the examiners; it depends on the manner in which the examination is conducted. The chief fault in the examination has been pointed out by your correspondent—viz., the absurdity of attempting to test a student's knowledge of anatomy and physiology by two questions in each subject. As well might a zoologist presume to a knowledge of ocean life after examining a handful of brine. He would probably find more in a teacup from a highly concentrated horse-pond than in one from the broad Atlantic.

The remedy is easy. Let there be two papers, one in anatomy and one in physiology, each of at least four questions, and let three hours be given to each paper. This would at once improve the examination, and diminish the unfair risk which now attends it.

The other suggestions made in your leading article, as to an alteration in the system of marking, and the appointment of separate examiners in physiology, would also add much to the efficiency of the examination.

I hope the foregoing remarks may not be taken as written in any enmity towards the College, but rather as prompted by a sincere desire to see the examinations improved. I would wish the test to be not more easy, but less uncertain. From the examiners themselves I have frequently witnessed, and myself experienced, the greatest consideration and courtesy.

Your obedient servant,

December, 1878. R. CLEMENT LUCAS.

Oxoniensis.—If the Secretary of the Association of Medical Officers cannot supply the information required, application might be made to the Secretary of the Local Government Board.

THE PROPOSED PRESENTATION TO PROFESSOR SCHWANN.

To the Editor of THE LANCET.

SIR,—Some months ago I read in your columns an announcement of a manifestation which was to take place at the University of Liège, and of a presentation which was to be made to Professor Schwann. Ever since I have looked, but looked in vain, for an account of the proceedings. Being an *alumnus* of the University, and a pupil of that old and eminent Professor, you may be sure that I take a lively interest in the matter. I shall be really obliged if you or some of your readers can give me a little information as to how the affair went off, if it went off at all.

Yours truly,

W. PRATT, M.D. Liège, F.R.C.S. Eng. (Exam.).

Newtown, Montgomeryshire, Nov. 25th, 1878.

DEVIZES RURAL SANITARY APPOINTMENT.

THE Local Government Board having decided that the work in this district shall in future be performed by one man, the Board of Guardians offer the liberal salary of £80 per annum to anyone who will undertake to discharge the duties now entrusted to the six district medical officers at an aggregate salary of £133 a year. It will be interesting to see whether any of the local practitioners will jump at this offer, or leave it to some stranger who may hope in time to work up a practice in a district already overcrowded. It may be of value to intending candidates to know that the district is triangular in shape, that the angles are about ten miles apart by road, and that there are no railway facilities. The appointment does not compare favourably with three others in the neighbourhood:—

	Acres.	Population.	Salary.
Melksham ..	1,416 ..	3,582 ..	£50
Westbury ..	20,543 ..	11,525 ..	80
Wilton ..	50,968 ..	9,029 ..	120
Devizes ..	82,490 ..	14,412 ..	80

Rifle Volunteer.—Our correspondent cannot recover the fee from the authorities; it must be considered a civil matter, and one simply as between private practitioner and client.

THE BRITISH MEDICAL BENEVOLENT FUND.

To the Editor of THE LANCET.

SIR,—I ask permission to offer in your columns the sincere thanks of the Committee of the British Medical Benevolent Fund to Sir W. Gull for a donation of £50, and to T. M. Bass, Esq., M.P., for a donation of £100, sent through Sir William.

These donations are as timely as they are liberal. At the last meeting the Committee voted in grants the last guinea of our balance, several applications for assistance having to be postponed.

This Fund has forty annuitants, mostly of £30, but four at £26 (10s. a week), supported from the interest of investments, and there are almost as many candidates waiting for vacancies. It is, however, in the donation department that the pressure of the "hard times" is felt. The Committee meets once a month to relieve pressing necessities by grants ranging from £5 to £20, these necessities, sad to say, sometimes amounting to absolute want, and in a large proportion of the cases the relief has to be administered in weekly payments—a task the unending labour of which is undertaken by Dr. J. C. Jonson, Chairman of the Committee. In this work the Fund stands alone, and one of its advantages is that not unfrequently it prevents ruin as well as relieves distress.

I almost fear to appeal to the profession for renewed assistance. Our appeals invariably come to the knowledge of the needy, and bring us new applications for relief, but they do not appear to reach in the same proportion the hearts of those who have it in their power to give. We have, however, a subscription-list of nearly £1000 a year, which has steadily increased, and, with donations, has enabled the Committee to make grants to the amount of £1200 during the current year, and £1600 in 1877. I venture, therefore, to make known our condition, in the hope that it may bring aid to the work we have in hand.

Perhaps I may be allowed to relate a case which came before me only this afternoon, that of a widow, who was left entirely unprovided for many years ago with several young children. Some of these she has brought up, some have died, and no wonder. Of the survivors, one boy earns 15s. a week as a painter, another 5s. a week, the mother and daughters doing needlework. For some weeks the painter has had no work, and the winter Ulsters on which the widow had been employed were all made, so that the 5s. of the youngest boy was all they had to depend upon until Saturday last, when, on the recommendation of Mr. Webber, a small sum was given in advance of the monthly meeting. Meat had been for some time an unattainable luxury, except that now and then threepence had been expended on bones, which, with bread and vegetables, made soup for two or three days; "and then—I dare say you will laugh," said the poor lady, "I get a penny for the bones at the rag-shop." To-day she had walked from Islington to the London Hospital on some errand; from the London Hospital to St. John's-wood for flannel which Mr. Webber had promised her; from St. John's-wood here for a few small articles of clothing, and to ask if she might count on some further small advance before Christmas for the children's dinner on that day; and she would finally walk from here to Islington.

There is not a month in which cases like this do not come before the Committee, and unfortunately they are by no means all from the lower ranks of the profession.

I remain, Sir, yours faithfully,
W. H. BROADBENT, M.D., Treasurer.

34, Seymour-street, Portman-square, Dec. 1878.

L.R.Q.C.P.I.—The usual scale of allowances is 12s. a head for every adult and half that sum for every child landed alive, some reduction being made if the shipowners or agents provide drugs and instruments. In exceptional cases a "lump sum" is given by special agreement; but the above is, and has been for many years, the rule as to all emigrants leaving the United Kingdom for British colonies. A certain sum is usually allowed for the return passage, or a passage is secured by the agents.

A QUERY.

To the Editor of THE LANCET.

SIR,—You would favour me very much by allowing me through your journal to ask your numerous readers to inform me what hospitals give honoraria to the members of their medical staff, and, if possible, the amount received by them. Yours &c.,

Dec. 4th, 1878. JUSTITIA.

VITAL STATISTICS.

IN a Report from the Registrar-General of New South Wales, just presented to Parliament, he states, writing from Sydney, that the estimated population of the colony on the 31st of December last was 662,212 persons, being an increase of 32,426, or 5·15 per cent. The estimated number of the sexes was as follows: males, 367,323; females, 294,889; so that the former were 72,434 in excess of the latter. The proportion of males per 1000 of population was 555, of females 445. The number of births registered during the year was 25,851, as against 25,298 in the year preceding, being an increase of 553; of these, 12,292 were males and 11,559 females, or 733 more males than females; whilst the deaths, 9669, were fewer by 1224. It appears that of the 9068 there were 4494 bachelors, 4435 spinsters, 509 widowers, and 556 widows. Out of the number married, as many as 975 were obliged to make their mark to the contract—viz., 422 males and 553 females.

Surgeon.—Holderness and Co., 16, Corporation-street; and Scott, 100, King-street.

THE FEVER AT CYPRUS.

To the Editor of THE LANCET.

SIR,—*A propos of* a report, apparently by an observer on the spot, that the fever by which our troops at Cyprus are struck in considerable numbers was in its nature at first continued, then intermittent, the writer of a leading article in a leading journal in England casts doubts upon the circumstance, and, by way of illustration, says in effect that as soon might a dog become changed into a cat as such a transformation take place in the disease alluded to. The expression is terse, telling, but misleading. With regard to our newly-acquired island, and the particular forms of disease prevalent among the troops upon it, the principal medical officer there is perfectly capable of taking all necessary measures, precautionary and remedial. My object, however, in writing this letter is to observe that one result of statements and expressions of opinion such as I have just alluded to, made by *authorities* who live at home at ease, with regard to forms of fever as of other diseases to which soldiers on foreign service are liable, not only carry at *home* a degree of weight to which they are in no way justly entitled, but place army medical officers immediately concerned in the difficult and invidious position of having their views and acts under trying conditions abroad unfavourably criticised, and doubts cast upon them, by writers who themselves are without actual personal knowledge of the circumstances and facts regarding which they dictatorially write.

That an attack of fever, continued in type at first, may, and often does, become intermittent later on, is a fact often alluded to in the writings of the older medical officers in India, and well known to those now serving. Some little time ago I did myself the honour to send for review by THE LANCET a copy of a Report on Typhoid or Enteric Fever. If you will kindly turn to that Report you will find at page 19 an extract from the work of Sir James Annesley, containing a statement by that very eminent authority upon Indian diseases, that "intermittents often run into the remittent type, and then become continued; remittent and continued fevers in their turn change to intermittent." At page 21, a quotation occurs from Dr. Morehead, that "when remittent fevers pass into the continued form, and do not prove fatal in early stages, the remittent fever has assumed a typhoid or a dynamic character." At page 22, an extract from a little work by Surgeon-Major Cullen, A.M.D., states that "an ordinary febricula or seasoning fever, due to sun exposure, high day temperature, and the system generally being thrown out of gear by the surroundings, will attack new-comers to a station; eighty to ninety per cent. will recover, as a rule, in a few days, but the remainder will be longer indisposed." Dr. Cullen also makes allusion to the existence of intimate alliances between the paroxysmal, simple continued, and enteric fever in India. At page 104 it is remarked that, according to the views of some writers, *febricula* or ephemeral fever is itself in reality an intermittent fever limited to one paroxysm. Theories, applicable enough to conditions at home, are not always so to those in foreign climes, even although enunciated with epigrammatic force.

I am, Sir, yours truly,
C. A. GORDON, Surgeon-Major, A.M.D.

Madras Presidency, September, 1878.

TRACHEOTOMY TUBES.

To the Editor of THE LANCET.

SIR,—At the last meeting of the Medical and Chirurgical Society, in the discussion on Mr. R. W. Parker's paper, the merits of Mr. Morrant Baker's red-rubber tube were gone into. It is now quite time that a general opinion should be given as to the value of this tube. I have a very strong conviction of its value, and feel that it ought to be largely employed.

In the case of a child I operated upon three months ago for diphtheria, one of Durham's silver cannulæ, after some days' use, caused ulceration of the trachea, which quickly disappeared on the introduction of a Baker's tube.

At the beginning of the year an adult patient of mine had much trouble in obtaining the largest sized cannula (three-eighths of an inch in diameter). He tried at several firms. Succeeding at last, he now luxuriates in one for every day in the week; not that this is necessary, but I think that a second one ought always to be kept, although the tube, now that it is made with a layer of webbing, is not apt to tear even if roughly used, but lasts for a very long time. The tube this patient was wearing, and which he found commonly sold, was a quarter of an inch in diameter. With it he could not hurry in walking or go up stairs without getting "short of breath." With the large-sized cannula he can even run for a short distance with comfort.

Mr. Pridgin Teale, of Leeds, in a letter to me a short time back, said, in speaking of a patient of his wearing the tube for a year and a half, "I was well pleased with the working of Baker's tube."

I am, Sir, yours faithfully,
Dec. 9th, 1878. W. PUGIN THORNTON.

LONGEVITY.

FROM the twenty-second Annual Report of the Registrar-General on Vital Statistics of Sydney, suburbs and country districts, for the year ending 31st December last, and just presented to Parliament, it appears, from a table showing the deaths at all ages from one to 100 years, that of persons aged from 95 to 100 years there were recorded 14 males and 2 females; and of 100 years and upwards, 6 males and 2 females. The obituary of *The Times* often contains illustrations of prolonged existence in both sexes. On the 11th inst. there were recorded the deaths of five gentlemen and three ladies, whose united ages amounted to 682 years, giving an average of 85 years and three months to each of these persons, the oldest of whom, a gentleman, had reached the age of 90 years, the youngest, of the same sex, being 85; of the ladies, the oldest was 87, the youngest 82 years of age. The same obituary contained the deaths of six septuagenarians.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—The columns of the medical and military papers are crowded with letters on the organisation of the Army Medical Department, most of which, however, savour strongly of partisanship, with a marked bias to either the regimental or the station hospital system, and few, if any, suggest a modified scheme. That such a system is feasible, and that it would be acceptable to the many conflicting interests that are now distracting the department, no unprejudiced person will deny. Let us for a moment inquire into the two systems above alluded to, and see if they cannot be combined.

The "unificationists" claim (and with justice) for the station hospital system that it has worked satisfactorily since its introduction, and that it has always been adopted in time of war; and the "regimentalists" aver that the regimental system was always popular with medical and other officers, and that it had the great advantage of enabling the attending medical officer to acquire a perfect knowledge of the medical history of his patients.

As efficiency in peace and war, and economy at all times, are considerations of primary importance, and as the station hospital system is acknowledged to fulfil these conditions, it is evident that it should not be lightly abandoned for any less advantageous arrangement; but it may have grafted upon it, without detracting from its usefulness, the alleged advantages of the regimental system.

With this object in view, I would suggest that every surgeon should be attached (not appointed) to a regiment for a period of at least three years before he was considered eligible for promotion, and that during that time he should do duty at the station hospital, being chiefly employed in treating the sick of his corps under the supervision and control of the medical officer in charge of the hospital. He should also go through a course of drill, and pass an examination proving his efficiency to command a company.

As I hold that no one should make suggestions without stating the advantages that would accrue if his views were adopted, I submit that the following desiderata would be secured if the above recommendations were carried into effect:—

1. The acknowledged efficiency of the station hospital system would not be interfered with.

2. As a medical officer would be attached to a regiment for a considerable period, he would soon become acquainted with the medical history of his patients, and usefully apply that knowledge in the treatment of his sick in the station hospital.

3. The commanding and other officers of the regiment, their wives and families, and those of the private soldiers, would probably have more confidence in him than in a stranger.

4. A medical officer attached to a regiment, but doing duty at the station hospital, would be able to keep up his professional knowledge, and, as he would be attached to a regiment soon after he had obtained his commission, he would have an opportunity of applying practically, and under experienced supervision, the theoretical knowledge he had recently acquired at College and at Netley.

5. With reference to drill, a sufficient knowledge of it is necessary to qualify the surgeon on promotion and appointment to a station hospital or other charge, to maintain discipline in the Army Hospital Corps, which of late has been very properly placed under the command of medical officers. It would also cause him to be more respected by the men of the corps with which he was serving, and the practical information he had acquired would enable him to decide with greater accuracy the fitness or otherwise of ailing and delicate men for active service, different sorts of drill, and particular military duties. It would also encourage a spirit of comradeship between him and his combatant brethren, dispel that feeling of estrangement which now unfortunately too often exists between them, and tend to abolish the expression "non-combatant," which in itself would be a matter of some importance; for, although surgeons do not desire to be considered combatant officers, there is no one endowed with the spirit and feelings of a gentleman who would not be hurt if the term "non-combatant" was applied to him in a contemptuous light—a term which, moreover, is in any sense much less applicable to medical than to other departmental officers. A knowledge of drill and of the interior economy of a regiment would not, of course, in any way interfere with the medical officer's professional work, his duties as a surgeon being always paramount, his knowledge of military matters having been acquired solely to increase his efficiency as such, and not to endow him with any power of command beyond that which is necessary for the maintenance of discipline in the Army Hospital Corps.

I make these few suggestions in no cavilling or contentious spirit, but in the hope that they may perhaps in some slight degree assist those who are now engaged in the unenviable task of reorganisation, and I would here remark that the department is now by no means so disorganised as it is with some the fashion to represent it.

Yours truly,

November, 1878. DUM SPIRO SPERO.

MEDICAL FEES.

AT a late meeting of the Portadown Board of Guardians, a letter was received from the Local Government Board in relation to the expenses of medical witnesses under the new Public Health Act, in which the Board pointed out that a medical officer of the sanitary authority called to attend at Petty Sessions to assist in any prosecution under the Sanitary Act will be entitled to be paid for the same, unless it shall have been agreed that the duty of giving such attendance shall be included in his salary. A sealed order was enclosed, approving of a sum of not less than one guinea nor more than two guineas per day.

Dr. Thos. Barlow.—The paper shall appear next week.

THE DIAGNOSTIC SIGNS OF ALCOHOLISM.

To the Editor of THE LANCET.

SIR,—Your correspondent, Mr. Glaister, has, I think, quite unnecessarily taken objection to your annotation of November 16th, on Dr. Macewen's observations on the state of the pupils in acute alcoholism.

Knowing, as everyone should, the extreme difficulty of diagnosis met with in cases of coma, and that hitherto the state of the pupils *per se* has been held to be a most uncertain guide in nearly every form of unconsciousness, surely great caution is necessary in accepting as a rule the dictum of a single or even of two observers upon such a point. How, I should like to ask, would such a test be applicable in the case of cerebral hæmorrhage occurring in a very drunken man, knowing as we do that in cerebral hæmorrhage the pupils may present no peculiarity? Dr. Hughlings-Jackson says "it is quite certain there may be a large clot on one side of the brain, when the pupils cannot be considered to be abnormal"; and Dr. Wilks affirms that "we cannot connect the conditions of the pupils with any definite lesion, for their state is very variable, and is liable to be influenced by very slight causes." With regard to the state of the pupils in alcoholic coma, Dr. Woodman, whose observations are based upon twenty-four cases of alcoholic coma brought under his notice at the London Hospital, states "the pupils may be either contracted or dilated." In an admirable paper on this subject contributed to your journal in December, 1877, Dr. John Curnow describes the state of the pupils as "dilated, though they may be contracted or even unequal"; and again, "we should look at the pupils, but not lay much stress thereon." There is, indeed, upon this one point—the state of the pupils in acute alcoholism—abundant testimony from very competent observers that very little reliance can be placed upon it as a diagnostic sign. I wish, however, particularly to draw attention to the article upon Softening of the Brain in Dr. Reynolds's "System of Medicine." On page 440, vol. ii., there is a statement which bears most opportunely on this subject. Dr. Reynolds says: "This I have shown again and again by gently raising the lids of such a patient" (suffering from acute softening), "and exposing the contracted pupils to the light without arousing him; there is then no dilatation nor change of any kind; but if he then be addressed loudly by name, or if his toe be pinched so that he is awakened, the pupils instantly dilate."

There can, as you observe, "be no difference of opinion as to the interest of Dr. Macewen's contribution to the solution of a difficult question in diagnosis"; but that the phenomenon so observed by him affords a satisfactory diagnosis of acute alcoholism, and justifies the conclusion that the insensible person "can be labouring under no other state than alcoholic coma," cannot, in the face of such testimony as I have quoted, be admitted without, as you suggest, "a larger trial."

I am, Sir, yours obediently,

Manchester, Dec. 1878. S. HOLGATE OWEN.

PIEDRA.

To the Editor of THE LANCET.

SIR,—I had the pleasure of hearing the discussion upon Dr. Pye Smith's specimen of a disease of the hair, called "piedra," and having made a careful examination of his preparation, and one kindly shown to us afterwards by Dr. Hoggan, the one referred to in his letter to THE LANCET of Sept. 7th, said "to have been taken from the beard and moustache of a much-respected official of one of our medical corporations, whose hair for the most part is quite grey, but showing a pigmentary deposit" at the site of origin of this nodular affection of the hair, called "piedra." I must say that there does not seem sufficient evidence to show that this strange nodular appearance of the hair is due to a phytiform parasite, and I believe the opinion was also expressed by several members present, both during and after the discussion, for several reasons—viz.:

1st. That the well-known characters of phytiform degeneration were not present in these specimens.

2nd. That these parasites are not usually found to commence their growth in the medullary substance or centre of the hair-tube, but generally commence their attack upon the cortex of the hair and amongst the superficial layers of the epidermis.

3rd. That there has not been found any trace of the parasite on the adjacent epidermis in these cases.

Nor is it by any means a new disease, as has been justly stated by Dr. Tilbury Fox in a letter to THE LANCET of Sept. 21st; also by Dr. Pye-Smith in his discussion at the Pathological Society's meeting, Dec. 3rd, referring to cases of similar character mentioned by Dr. Wilks in 1857, Kaposi, Hebra, vol. ii. The late Mr. Startin also alluded in his Lectures, published in 1846, to a disease of the hair of the whiskers, having much the same appearance as that described by Dr. Hoggan, showing pigment discoloration of the hair &c., under the name of alopecia.

The most probable theory of this nodulated appearance of the hair is, I think, that the pre-existing cells of the medullary substance of the hair undergoes a degenerative process; there then takes place a rapid accumulation of cells at one point of the hair-tube, which in time bursts open the sheath, and splits up the hair into fine fibres, at the same time shelling out these minute cells in large numbers, which may have the appearance of phytiform growth.

I am, Sir, yours obediently,

Sackville-street, Dec. 4th, 1878. JAMES STARTIN.

MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS, IRELAND.

By the rules of this Society, all Fellows, Honorary Fellows, and Licentiates of the College are eligible as members, and may be admitted on payment of the entrance fee and annual subscription. However, to prevent the female Licentiates in Medicine of the College attending the meetings, notice of a motion has been given for the next meeting of the Society, which will be held in January, to amend Rule 1, by adding the word "male" before Licentiates.

Mr. Ernest H. Jacob.—Yes.

Pass.—The subject is under discussion.

HOSPITAL "TREATMENT."

To the Editor of THE LANCET.

SIR,—I was surprised to gather, from your annotation of the week before last, that there are still hospitals in which nurses are employed who throw away medicines and give food and stimulants ordered for one patient to another. In my opinion, the system of nursing and ward supervision by sisters does offer in practice superior advantages, provided the sisters have been properly trained. From experience which I have had in the administration of a large infirmary of 523 beds, also at the same time watching the management of other hospitals, I must say I cannot agree with your correspondent "L." The engagement and dismissal of nurses ought to be solely left in the hands of a lady superintendent who is herself a trained and experienced nurse. In some hospitals, I am sorry to say, the matron has little or no control over her subordinates, this being vested in the power of a committee. If a properly trained matron or lady superintendent is employed, one who has had some experience in the education of probationers, and who is allowed just authority, a medical man who has some fault to find with a nurse has only to mention the matter to get it put right.

The system I advocate for the training of nurses, and which I have always found to succeed in practice, is published in a small pamphlet by Messrs. Kimpton and Co., of Holborn. Often have I heard medical men complain of certain so-called trained sisters or nurses; on making inquiries, I have invariably found they have been discharged from good training schools as incompetent. In those hospitals where the training of nurses is not a success, this is simply due to errors in detail, which might have been easily avoided if the managers had deigned not only to consult those who knew something about the training of nurses, but also to be guided by their experience and advice.

I am, Sir, yours faithfully,

Bennett-street, St. James's, Dec. 9th, 1878. SAMUEL BENTON.

To the Editor of THE LANCET.

SIR,—In the interests of a large class of nurses, who are unable to defend themselves, will you permit me to say that the condition of things hinted at in your issue of the 30th ult., is far from being general.

Nursing, like other branches of the healing art, has undergone considerable changes within the past few years, with the result of providing us with most able and intelligent helps, to whom in no small measure much of our success in treatment is due. The careful record of our patients' state owes some of its completeness to the nurse's report, for to her temperature-taking and other observations are frequently entrusted. The various institutions for training nurses are mostly associated with our large hospitals, where special efforts are directed to their instruction. How far the whole system is capable of amendment, as regards the management by "sisters," the duties of probationers, or even the class of women to be engaged, is, I admit, a fair subject for discussion; but that a systematic disregard of instructions and misappropriation of food and medicines is at all a fair description of present-day nursing, I for one most distinctly deny; and I cannot conceive of its existence unrecognised and unchecked by the medical officers.

The insinuations conveyed in the letter of your correspondent "L." in this week's issue, should not, in my opinion, have been made under cover of the anonymous. Most of us have at some time or another had an intimate acquaintance with a hospital such as he refers to, and the state of things he describes is not in my experience. Nor can I see any objections to help being given by the convalescent patients.

The opportunities that the patients have of complaint, the publicity of the wards, and last, though not least, the high character of the nurses themselves, alike preclude any but the most exceptional departure from propriety.

I am, Sir, yours faithfully,

W. H. ALLCHIN,

Physician to the Westminster Hospital, and to the Westminster Training School and Home for Nurses.

Wimpole-street, W., Dec. 9, 1878.

To the Editor of THE LANCET.

SIR,—In answer to the article, headed Hospital Treatment, in THE LANCET of Nov. 30th, one question ought to be asked: "Why condemn the whole class of nursing sisters for the imprudence of one individual? Young house surgeons and physicians very often make mistakes in the commencement of their career, yet would it not betray excessive ignorance on our part should we raise the question as to whether these same young men could ever be fit to hold the authority they most undoubtedly possess through the mistaken zeal of more than one member of their profession in treating, for instance, a case of tubercular peritonitis as an infectious disorder? It is absolutely impossible for a number of people, be they men or women, to think and act exactly alike; so amongst doctors and sisters there are foolish and sensible members in each community; and if one sister in a hospital has been foolish and wrong enough to commit the imprudencies as enumerated in THE LANCET, the doctor has been still more foolish in writing his sweeping denunciations against the class. Yours obediently,

London Hospital, Dec. 2nd, 1878. P. P. DIBBIN.

ENTERIC FEVER IN MANCHESTER.

To the Editor of THE LANCET.

SIR,—Having been practising in this township for some months, I find that enteric fever is very rife, without exciting that amount of attention which I consider should be caused by the prevalence of a disease so generally recognised by sanitary authorities as due to preventable causes. Side by side with the existence of this fever I find emanating from several of the openings in the gutters, which communicate (I presume) with the sewers, a stench so intolerable that it is no exaggeration to describe it as being sometimes simply diabolical. I could not have believed it possible that within three miles of Manchester Exchange such a state of things would have been allowed to continue. The effluvia are referred to chemical works in the adjoining locality of Clayton, some of which, I am informed, empty their refuse into a channel which was once a brook, but is now covered in and converted into a sewer, and runs through this township. Owners complain of the depreciation of property due not only to their houses remaining untenanted, but also to the injury done to the painted woodwork, which becomes covered by a sickly bluish glaze, similar to what I have observed on board ships laden with sugar in the West India trade. Can you tell me what causes that appearance? Is it sulphide of lead from the sulphuretted hydrogen?

My object in writing to you is to get some information respecting chemical and alkali works, particularly as regards their influence on health both of those engaged in the manufacture and those living within the range of their influence. Some of the people here consider the effluvia to be antiseptic. Can you refer me to some work on the subject, as I wish to make myself thoroughly up on it? Do you not consider it *probable* that the smell and the fever stand in the relation of cause and effect, at least predisposing cause, if not specific, as I suppose it would not be orthodox to hold the belief that a bad smell could cause a specific fever? Still sewer gas will cause cervical abscess, and undoubted cases are on record of persons contracting typhoid fever to all appearance from inhaling a bad smell. However, what I want is to be referred to some work on chemical and alkali manufactures in their relation to health, and if you can do so you will oblige me.—Yours &c.,

Manchester, Nov. 20th, 1878. H. G.

THE SEASON AT DAVOS PLATZ.

To the Editor of THE LANCET.

SIR,—The season in Switzerland has been bad alike for healthy and sickly folk, as many of us have found by sad experience. But, on the other hand, I think the enclosed record of sun temperature at Davos Platz since this wretched month came in will surprise your readers. The snow-time has set in severely. May I take this opportunity of expressing my sense of the utter folly—nay, wickedness—of those who send consumptive patients to Davos, or to any other health-resort, in the final stage of their malady. In those who have survived their journey and first arrival, the results this winter, thus far, are very favourable on the whole, as I hope to tell you more at large in a few months. Many invalids have gone too late in the year.

1878.		Max.		Min.		Solar Max.
Nov. 1,	Friday ..	35·0°	..	9·0°	..	135·0°
,, 2,	Saturday ..	32·5	..	12·0	..	132·5
,, 3,	Sunday ..	27·0	..	19·0	..	98·0
,, 4,	Monday ..	24·0	..	13·0	..	81·0
,, 5,	Tuesday ..	23·0	..	11·0	..	135·0
,, 6,	Wednesday ..	20·0	..	14·5	..	61·0
,, 7,	Thursday ..	26·0	..	8·5	..	88·5
,, 8,	Friday ..	32·5	..	8·0	..	126·0
,, 9,	Saturday ..	32·0	..	13·0	..	119·5
,, 10,	Sunday ..	26·0	..	11·0	..	47·5
,, 11,	Monday ..	34·5	..	11·5	..	147·5
,, 12,	Tuesday ..	30·5	..	20·0	..	136·5
,, 13,	Wednesday ..	36·5	..	11·5	..	157·5
,, 14,	Thursday ..	40·5	..	24·5	..	148·5
,, 15,	Friday ..	26·5	..	15·5	..	76·5
,, 16,	Saturday ..	36·5	..	14·0	..	150·5

Nov. 25th, 1878. Yours truly, T. C. A.

FOREIGN BODIES IN THE AIR-PASSAGES.

To the Editor of THE LANCET.

SIR,—With reference to Dr. Lowe's case recorded in my letter in your issue of last week, allow me to say that the foreign body was not an ear of "barley," properly so called, but the grass designated "wall-barley" (*Hordeum murinum*), and that Dr. McKenzie's place of residence was Thetford, *not* Stretford. Your obedient servant,

Savile-row, Dec. 9th, 1878. GEORGE JOHNSON.

DRAINAGE OF HASTINGS.

To the Editor of THE LANCET.

SIR,—Hastings is becoming daily more popular as a sanatorium, and, as the report of the medical officer of health seems to show, not undeservedly. But there is one point in the sanitary arrangements of that town which seems to call for consideration. Intending residents are assured by house-agents and others that the series of large iron sewers now lining the beach, within fifty yards of the houses on the Parade, are disused, and that all the sewage is carried to some distance from the town, and there discharged. Not ten days ago, however, I saw with a rising tide a large quantity of a black and fetid fluid poured forth from the mouth of one of these sewers. Either the more perfect system of sewage disposal should be adhered to, or the public should be made aware of the risk they run. I enclose my card, and remain, yours &c.,

December, 1878. AN 1878 M.R.C.S.

DR. CARTER'S CASE OF ANEURISM.

To the Editor of THE LANCET.

SIR,—My attention has been called to the following accidental omissions from my paper in your issue of Nov. 30th:—(a) That the case was transferred to me by my friend and colleague, Mr. West. (b) That treatment of the aneurism by galvano-puncture was only determined upon after a consultation with my colleagues, to whom I am indebted for their assistance. (c) That the first operation was performed by Mr. West. Yours faithfully,

Birmingham, Dec. 9th, 1878. ALFRED H. CARTER.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir J. Paget, London; Sir G. Burrows, London; Dr. Southey; Dr. Pavy, London; Dr. Brown-Séquard, Paris; Dr. Barlow, London; Dr. Bastian, London; Mr. Critchett, London; Dr. G. Johnson, London; Dr. I. B. Yeo, London; Mr. J. Soelberg Wells, London; Dr. Hughlings-Jackson, London; Dr. Ramskill, London; Mr. T. Holmes, London; Dr. Sturges, London; Dr. J. Langdon Down, London; Dr. Elliott, Bristol; Mr. Ikin, Leeds; Dr. Rose, Chesterfield; Mr. Grellett, Hitchin; Mr. Butlin, Camborne; Dr. Massey, Nottingham; Dr. Lowndes, Egham-hill; Mr. Farquharson, Stockton-on-Tees; Mr. Tudor, Dorchester; Mr. Habgood, Eastbourne; Dr. Stirling, Perth; Dr. W. Newman, Stamford; Dr. Sheen, Cardiff; Dr. E. Andrew, Plymouth; Mr. Jackson, Plymouth; Dr. Carter, Birmingham; Mr. Harrison, Liverpool; Mr. Wills, Liverpool; Mr. Berryman, Penzance; Mr. F. Vacher, Birkenhead; Dr. Savage, Birmingham; Dr. Baxter, London; Mr. Marsh, Newport, Mon.; Mr. Gosset, Abingdon; Mr. Sheaf, Barrow-in-Furness; Mr. Johnstone, Brighton; Mr. Renton, Glasgow; Mr. Buckley, High Wycombe; Dr. J. Sawyer, Birmingham; Mr. Pick, London; Mr. Marsh, London; Mr. Knott, London; Mr. Bartleet, Birmingham; Dr. Candlish, Alnwick; Mr. J. Cooper, Cromer; Dr. Finlay, London; Dr. S. Mackenzie, London; Dr. Duvernex, Tewkesbury; Dr. Paget, Cambridge; Dr. L. Holland, Newcastle-on-Tyne; Mr. Cartwright, London; Dr. Goldsmith, Bedford; Dr. MacCormac, Belfast; Mr. Coleman, London; Mr. Pepper, London; Dr. H. Rose, London; Dr. Bowman, Sunderland; Dr. Hime, Sheffield; Mr. Murrell, London; Mr. Thomson, Sudbury; Mr. Mash, Northampton; Mr. Douglas, Newbury; Mr. F. A. Bulley, Reading; Mr. Worthington, Lowestoft; Dr. Morison, Jersey; Dr. Pierce, Manchester; Dr. Sadler, Barnsley; Mr. Thompson, Omagh; Dr. Stephens, Brighton; Mr. Parker, Liverpool; Dr. Charteris, Glasgow; Dr. M. Beverley, Norwich; Dr. Pritchard, London; Dr. Bennett, London; Dr. Purves, London; Dr. Shepherd, London; Mr. W. M. Baker, London; Mr. Henry Smith, London; Mr. Harman, London; Mr. E. Owen, London; Mr. Hutchinson, London; Dr. Potter, London; Dr. Watson, Tottenham; Mr. Sympson, Lincoln; Mr. Juler, London; Dr. Cardell, Tunbridge Wells; Professor Macleod, Glasgow; Dr. J. Williams, London; Mr. Stewart, Barnsley; Dr. Fairbank, Doncaster; Dr. Tibbits, Bradford; Mr. Walsh, Worcester; Dr. Watson, Edinburgh; Dr. Lowe, Lincoln; Mr. D. M. Ross, Monaghan; Mr. Mason, Burton-on-Trent; Mr. Marsdin, Eastbourne; Mr. Wiblin, Southampton; Mr. Williams, Birmingham; Dr. Phillips, Reading; Mr. Jackson, Wolverhampton; Dr. Strange, Worcester; Dr. Skerrit, Clifton; Dr. Watson, Glasgow; Mr. Smith, Shepton Mallet; Dr. Kebbell, Brighton; Mr. Freeland, Chichester; Mr. King, Bath; Dr. Fairbank, Windsor; Dr. Cousins, Southsea; Dr. Jacob, Leeds; Dr. Gowers, London; Dr. Powell, London; Mr. Darke, Salisbury; Mr. Dolan, Halifax; Mr. Moore, Petersfield; Dr. Green, London; Mr. Cook, Gateshead; Mr. Greaves, Derby; Mr. Browne, Liverpool; Mr. Bell, Newcastle-on-Tyne; Mr. Fox, Bath; Mr. Sharp, Truro; Mr. Jordan, Birmingham; Dr. Holdsworth, Wakefield; Dr. Alexander, Bradford; Mr. Webster, Bristol; Dr. Butler, Winchester; Mr. Horace Elliott; Mr. M'Aldowie, Stoke-upon-Trent; Dr. C. Dukes, Rugby; Mr. Sproule, Somerset; Mr. Smith, Brighton; Dr. Arnison, Newcastle-on-Tyne; Mr. Clubbe, Kidderminster; Dr. F. Brittan, Clifton; Mr. C. J. Fox, London; Mr. Palmer, Birmingham; Mr. Tuck, Seaford; Dr. Marshall, Nottingham; Dr. Smith, Clifton; Dr. Lyell, London; Mr. Blackburn, Barnsley; Mr. J. R. Baumgartner, Newcastle-on-Tyne; Mr. Swain, Devonport; Mr. J. R. Lane, London; Mr. Tyrrell, Great Malvern; Mr. Cheshire, Birmingham; Dr. Steele, Rome; Dr. R. Bennet, Buxton; Dr. J. Garson Da Cunha, Bombay; Mr. Turner, Brighton; Mr. W. Webb, Derby; Mr. Straton, Salisbury; Mr. Nunneley, Leeds; Dr. Spence, Red-hill; Mr. Morton, Guildford; Dr. Fussell, Brighton; Mr. Thompson, Omagh; Dr. Donnet, Cheltenham; Dr. Macdougall, Carlisle; Dr. Grose, Melksham; Mr. Sheppard, Worcester; Dr. Woodward, Worcester; Dr. A. E. Sansom, London; Dr. S. Ringer, London; Mr. Wearne, Helston; Mr. Wills, Somerset; Dr. Bradbury, Cambridge; Mr. Parsons, Dawlish: Mr. Mason, Bath; Dr. F. Ogston, jun., Aberdeen; Mr. J. E. Hedges, Leighton Buzzard; Mr. Palmer, Gosport; Dr. Waters, Chester; Mr. Cumming, Exeter; Mr. Beveridge, Aberdeen; Mr. Hamilton, Liverpool; Dr. Ridpath, Great Driffield; Dr. Warden, Birmingham; Mr. A. G. Brown, London; Mr. Teale, Leeds; Dr. Alexander, Halifax; Mr. Powell, Worcester; Mr. Penfold, Brighton; Dr. Thompson, Bournemouth; Dr. Shapter, Exeter; Mr. J. B. Withington, Doncaster; Dr. Garstang, Blackburn; Mr. Moore, Moreton-in-Marsh; Dr. Coghill, Isle of Wight; Dr. Bell, Chatham; Mr. Ellis, Gloucester; Mr. Truman, Nottingham; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Lake, Ilford; Messrs. Bennett and Son, Ipswich; Mr. Smallman, Wigan; Mr. Bambridge; Mr. Sampson, York; Dr. Edwards, Cardiff; Mr. Griffin, Reading; Mr. Davies; Mr. Barton; Mr. Bennett; Mr. Gough; Mr. Wheeler, Ventnor; Mr. Barker; Mr. Bayly; Mr. Hale, Chesterfield; Mr. Cooper, Pattingham; Mr. Kendrick; Dr. Kenyon, Billingborough; Mr. Harston; Dr. Dyson, Sheffield; Dr. Wood, Darlaston; Mr. Cowrie; C. P., Stockton-on-Tees; Troja; A. B., Derby; Medicus, Nottingham; J., Ipswich; J. H., Great Grimsby; Alpha; Surgeon; M. B., Oxford; A. Z.; Medicus, Hulme; A. B.; M.D., Eastbourne; Medicus; X. X. X.; Medicus, Uxbridge; M.D.; L.R.C.P.; Medicus, Tamworth; Doctor.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Dec. 12th, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 6.30 A.M.
Dec. 6	30·08	N.	30	33	..	38	29	..	Fine
,, 7	29·96	N.E.	32	33	..	42	30	·12	Overcast
,, 8	29·51	N.E.	33	37	..	39	31	..	Overcast
,, 9	29·62	N.W.	..	32	..	38	30	..	Foggy
,, 10	29·81	N.	..	30	..	51	27	..	Foggy
,, 11	29·89	N.W.	..	31	..	35	30	..	Foggy
,, 12	29·98	N.W.	..	29	..	40	27	..	Foggy

Medical Diary for the ensuing Week.

Monday, Dec. 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. W. H. Day, "On Heart Disease in Children."

Tuesday, Dec. 17.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be shown:—Growth of the Fungi in Ringworm and Favus respectively; The Histology of Rodent Cancer; Effects of Compression of the Main Bronchi; Brain showing effects of Extreme Congestion; Chronic Pneumonia; Tumour of the Breast; Spinal Cord from a Case of Infantile Paralysis; Cured Aneurism of the Subclavian; Warty Growth on Tricuspid Valve with Mitral Stenosis; and other Specimens.

Wednesday, Dec. 18.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
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GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.—8½ P.M. Dr. C. Meymott Tidy, "On Anæsthetics."

Thursday, Dec. 19.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Dec. 20.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Dec. 21.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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